PN-ABA-686

Submitted to:

INTERNATIONAL AGRICULTURAL DEVELOPMENT SERVICE

EVALUATION OF MINIKIT PERFORMANCE

(Rice, Maize, Wheat and Soyabean)

Volume I:

MAIN TEXT

June 1983

AGRICULTURAL PROJECTS SERVICES CENTRE
Ram Shah Path, Kathmandu
Nepal

EVALUATION OF MINIKIT PERFORMANCE

(Rice, Maize, Wheat and Soyabean)

Volume I:

MAIN TEXT

F O R E W O R D

The Minikit Programme, a further step towards the rapid and wide dissemination of improved varieties along with related technologies among the farmers, was initiated as a part of National Crop Commodity Programmes of Rice, Maize, Wheat and Soybean in the year 1977. The evaluation study of the programme has been undertaken by ARDSC at the request of International Agricultural Development Service, the results of which could be used in the future plan of the Programme.

I acknowledge with gratitude the cooperation rendered to the Study Team by Regional Directors of Agriculture, Agricultural Development Officers and Crop Coordinators. I also express my humble gratefulness to International Agricultural Development Service for entrusting this study to ARDSC.

I extend sincere thanks to all of the Study Team members, who worked for completing this Study, specially to Mr. Purna Lal Shrestha, who coordinated this venture and Mr. Ram Man Joshi, who was highly helpful to this Study.

Thakur Nath Pant
Executive Director

Study Team Members

Mr. Purna Lal Shrestha	Economist - Coordinator
Mr. Ram Man Joshi	Agronomist
** Mr. Damodar Ghimire	Economist
* Mr. Mukunda Sharma	Economist
* Mr. Nirmal Gyalang	Agricultural Specialist
* Mr. Laxman Sah	Agricultural Specialist
** Mr. Prem Nath Dhakal	Research Assistant
* Mr. Dina Nath Lamsal	Research Assistant
* Mr. Murari Raj Kaini	Research Assistant
* Mr. Khagendra Basnet	Research Assistant
* Mr. Ram Swarath Yadav	Research Assistant
* Mr. Govinda Gyawali	Research Assistant
* Mr. Baua Ram Yadav	Research Assistant
* Mr. Kapil Deo Mishra	Research Assistant

Cartographer/Typist/Mimeographer

Mr. Karunakar Sharma	Cartographer
Mr. Man Sagar Shrestha	Cartographer
Ms. Jamuna Bhattarai	Typist (First Draft Report)
Mr. Kamal Bahadur Bista	Typist (Final Draft Report)
Mr. Shiwa Kumar Rai	Typist (Final Report)
Mr. Ram Saran Thapa	Mimeographer
Mr. Pitambar Sinkhada	Mimeographer

---

* Involved until field survey.

** Involved until First Draft Preparation.

EVALUATION OF MINIKIT PERFORMANCE

(Rice, Maize, Wheat and Soyabean)

Volume I: MAIN TEXT

C O N T E N T S

	Page
FOREWORD	
COUNTRY DATA: NEPAL	
LIST OF TABLES	
ABBREVIATIONS USED	
MAP OF NEPAL SHOWING MINIKIT DISTRIBUTION	
ORGANIZATION CHART OF MINIKIT PROGRAMME	
SUMMARY AND RECOMMENDATIONS	i - vi
CHAPTER	
1 INTRODUCTION AND BACKGROUND	1 - 9
1.1 Project Background: The Integrated Cereals Project (ICP)	1
1.2 Detailed Description of the ICP	2
1.2.1 Project Goal	2
1.2.2 Project Purpose	2
1.2.3 Proposed End of the Project Status	2
1.2.4 Project Outputs Planned	3
1.2.5 Objectives of the Minikit Programme	5
2 SCOPE OF STUDY	10 - 18
2.1 Objectives of the Study	10
2.2 Description of the Study	10
2.3 Methodology	13
2.3.1 Sampled Districts	13
2.3.2 Households Receiving Minikits	16
2.3.3 Households not Receiving Minikits	16

CHAPTER | Page

2.3.4 Key Informants 17

2.3.5 Pre-test of Questionnaire 17

2.3.6 Availability of Support Services 18

3 RESULTS AND DISCUSSION 19 - 76

3.1 Delivery System 19

3.2 Feedback Cards 30

3.2.1 Response on Feedback Cards from Different Quarters 35

3.2.2 Arrangement of Information Derived from Feedback Cards Received from the Sampled Districts 38

3.3 Understanding of Minikit Objectives 45

3.4 Awareness Created by the Minikit Programme 50

3.5 Reaction on the Minikit Programme from Different Quarters 53

3.6 Minikit Programme Information to the Farmers 60

3.7 Impact of Minikit in the Panchayat and the Neighbouring Panchayats 62

3.8 General Impression of Minikit Crops on Participant Farmers 64

3.9 Evaluation of Minikit Performances (Crop-wise) 65

3.9.1 Rice 65

3.9.2 Maize 66

3.9.3 Wheat 66

3.9.4 Soyabean 66

3.10 Farmers' Interest in Receiving Minikits and Their Willingness to Pay for Them 66

3.11 Effect of Minikit Programme on the Dissemination of Improved Crop Varieties 70

3.12 Farmers' Criteria for Judging Seed Quality 75

COUNTRY DATA : NEPAL

Geographical Location	Latitude 26°20'N and 30°10'N Longitude 80°15'E and 88°10'E
Length (east to west)	800 km
Breadth (north to south)	130 - 240 km
Administrative Division	5 Development Regions* 14 Zones 75 Districts
Total Land Area	141,059 sq km
Cultivated Area	31,268 sq km
Population (1981 Census)	15,020,451 Persons (Male 7,599,046 ; Female 7,421,405)
Rate of Population Growth (1971 - 1981)	2.66% per annum (Mountain 1.3%, Hills 1.8%, Terai 4.1%)
Population Density on:	
Total Land Area	107 Persons/sq km
Cultivated Land	480 Persons/sq km
Distribution of Population (Ecological Belt-wise)	
Mountain	1,291,073 Persons (8.60%) (Male 650,131 ; Female 640,942)
Hills	7,169,853 Persons (47.73%) (Male 3,568,099 ; Female 3,601,754)
Terai	6,559,525 Persons (43.67%) (Male 3,330,816 ; Female 3,187,709)
Households (1981 Census)	
Total	2,479,472
Agricultural	2,081,666
Gross Domestic Product (GDP)	
Total GDP at 1979/80 prices	Rs. 24,420 million
Farm sector	Rs. 13,520 million
Non-farm sector	Rs. 10,900 million
Population (1980 Estimate)	14.26 million
Per capita GDP	Rs. 1,712 (US Dollar 143)

* For planning and development purposes, the Kingdom of Nepal was divided into four development regions in 1972 (2029 B.S.)- Eastern (consisting of 16 districts of Mechi, Koshi and Sagarmatha zones) with Dhankuta as its headquarter; Central (consisting of 19 districts of Janakpur, Narayani and Bagmati zones) with Kathmandu as its headquarter; Western (consisting of 16 districts of Lumbini, Gandaki and Dhawalagiri zones) with Pokhara as its headquarter; and Far Western

NEPAL

AREA UNDER, PRODUCTION AND YIELD OF PRINCIPAL CROPS, 1976/77 -1980/81(2033/34-2037/38)

Crops	1976/77 (2033/34)			1977/78 (2034/35)			1978/79 (2035/36)			1979/80 (2036/37)			1980/81 (2037/38)			% change in 1980/81 over 1976/77		
	Area (ha)	Production (t)	Yield (t/ha)	Area (ha)	Production (t)	Yield (t/ha)	Area (ha)	Production (t)	Yield (t/ha)	Area (ha)	Production (t)	Yield (t/ha)	Area (ha)	Production (t)	Yield (t/ha)	Area	Production	Yield
Cereal Crops	2201912	3704096	1.68	2221890	3586130	1.61	2222540	3652910	1.64	2202270	3196310	1.45	2262360	3833990	1.69	2.75	3.51	0.60
Paddy	1261619	2386272	1.89	1264060	2282430	1.81	1262650	2339860	1.85	1254240	2059930	1.64	1275520	2464310	1.93	1.10	3.27	2.12
Maize	445350	797339	1.79	444980	740470	1.66	454140	742590	1.64	432340	553760	1.28	457450	742940	1.62	2.72	-6.82	-9.50
Wheat	348280	361853	1.04	366640	411270	1.12	356180	415230	1.17	366860	439990	1.20	381240	481790	1.26	9.46	33.15	21.15
Barley	24869	20595	0.83	25500	22450	0.88	26160	22690	0.87	26020	23290	0.90	26370	23420	0.89	6.04	13.72	7.23
Millet	121794	138037	1.13	121110	129510	1.07	123410	133140	1.08	122810	119340	0.97	121780	121530	1.00	-0.01	-11.96	-11.50
Cash crops	224952	691653	3.07	261132	796331	3.06	269260	812261	3.02	256844	798654	3.11	206220	856720	4.15	-8.33	23.87	35.18
Sugarcane	17990	311194	17.30	22880	386930	16.91	21990	369930	16.82	23120	384370	16.63	25310	478810	18.92	40.69	53.86	9.36
Oilseeds	107746	61382	0.57	133060	78450	0.59	143960	92500	0.64	118130	62870	0.53	122590	77310	0.63	13.76	25.95	10.53
Tobacco	6964	5132	0.74	7990	6030	0.75	7590	5490	0.72	7550	5500	0.73	7210	5490	0.76	3.53	6.98	2.70
Jute	39965	44920	1.12	46852	55801	1.19	45000	65551	1.46	56714	67514	1.19						
Potato	52287	269025	5.15	50350	271120	5.38	50700	278790	5.50	51330	278400	5.42	51110	295110	5.77	-2.25	9.70	12.04
Total	2426864	4395749	1.81	2483022	4384461	1.77	2491800	4465171	1.79	2459114	3994964	1.62	2468580	4690710	1.90	1.72	6.71	4.97

Source : Department of Food and Agricultural Marketing Services, HMG/N.

(consisting of 24 districts of Rapti, Bheri, Karnali, Seti and Mahakali zones) with Birendranagar as its headquarter. Later as a result of decision made on 10th of October 1980 to establish a development region consisting of 9 districts of Seti and Mahakali zones, a major change was brought about in the number, names and composition of development regions. Again on the 3rd day of December 1981, development regions were renamed as follows: Eastern (previously Far Eastern consisting of 16 districts of Mechi, Koshi and Sagarmatha zones) with Dhankuta as its headquarter; Central (previously Eastern consisting of 19 districts of Janakpur, Narayani and Bagmati zones) with Kathmandu as its headquarter, Western(Previously central consisting of 16 districts of Lumbini, Gandaki and Dhawalagiri zones) with Pokhara as its headquarter; Mid Western(previously Fourth Development Region (consisting of 15 districts of Rapti, Bheri, and Karnali zones) with Birendranagar as its headquarter; and Far Western (previously Fifth Development Region consisting of 9 districts of Seti and Mahakali zones) with Dipayal as its headquarter. Each development region extends from south to north and has different ecological regions, i.e., Mountain, Hills and Terai.

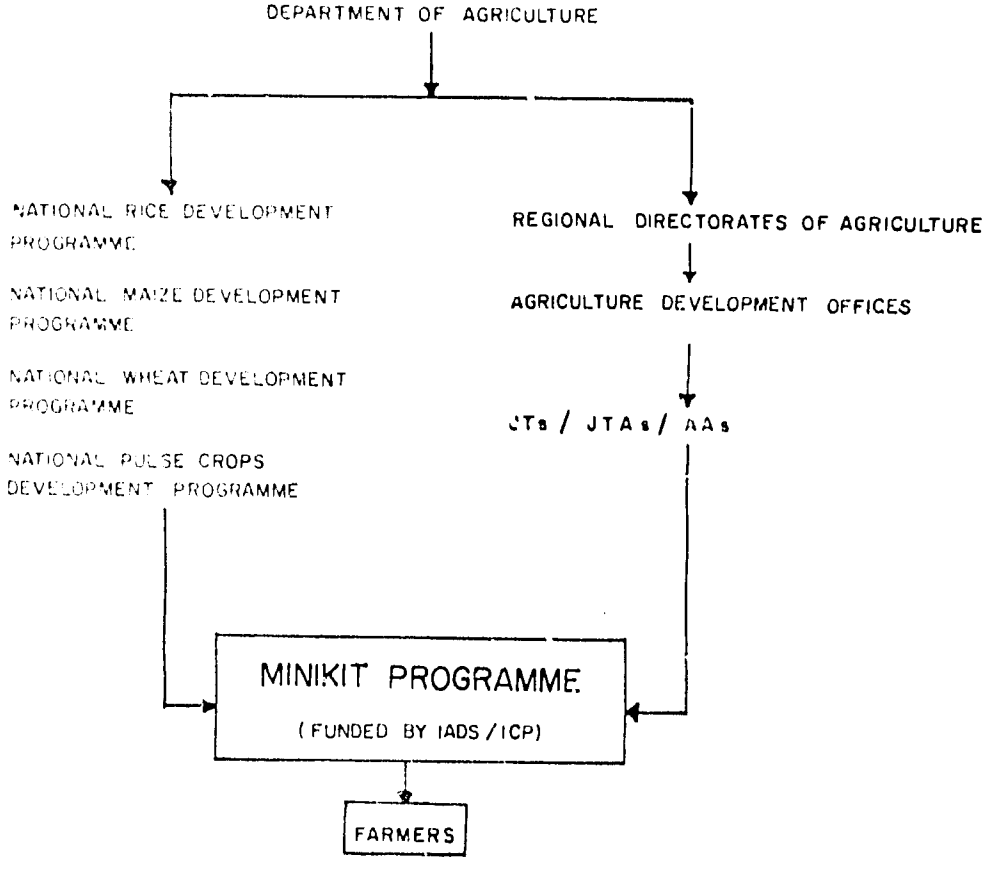
LIST OF TABLES

Table		Page
1.	District Data: Eight Sampled Districts	14
2.	Area, Production and Yield of Major Crops in Sampled Districts	15
3.	Number of Minikits Allocated to, Received and Distributed by Agriculture Development Offices of 47 Districts	21
4.	Timeliness of Receipt of Minikits According to JT/JTAs	24
5.	Number of Feedback Cards Received from Eight Sampled Districts	34
6.	Number of Minikit Receiving Farmers Interviewed and Number of Minikits Distributed During 1977/78 - 1979/80 Period	51
7.	Minikit Farmers' Interest in Growing Minikit Crop Varieties and Their Sources of Seeds	52
8.	Farmers' Response on Visits Made to Their Minikit Plots by JT/JTAs and ADOs	57
9.	JT/JTAs' Response on Performance of Minikits	58
10.	Farmers' Response on the Success or Failure of the Minikit Programme in Their Panchayats	59
11.	Sources of Knowledge About Minikit Programme to Minikit Farmers	61
12.	Farmers' Interest in Receiving Minikits	68
13.	Effect of Minikits on Spread of Varieties of Crops	71
14.	Dissemination Rate of Minikit Crop Varieties	72
15.	Number of Farmers Using Preferred Minikit Crop Varieties Next Year of Distribution	74

ABBREVIATIONS USED

AAs	Agricultural Assistants
ADOs	Agriculture Development Officers
AIC	Agricultural Inputs Corporation
APROSC	Agricultural Projects Services Centre
CRD	Crop Research-cum-Demonstration (Outreach Stations)
FFT	Farmer's Field Trial
GAADP	Gandaki Anchal Agricultural Development Project
HMG/N	His Majesty's Government of Nepal
IADS	International Agricultural Development Service
ICP	Integrated Cereals Project
JTAs	Junior Technical Assistants
JTs	Junior Technicians
MFAI	Ministry of Food, Agriculture and Irrigation (currently Ministry of Agriculture)
NMDP	National Maize Development Programme
NPDP	National Pulse Crops Development Programme
NRDP	National Rice Development Programme
NWDP	National Wheat Development Programme
RDA	Regional Directorate of Agriculture
RDs	Regional Directors
USAID	United States Agency for International Development

ORGANISATION CHART OF MINIKIT PROGRAMME



SUMMARY AND RECOMMENDATIONS

Summary

Delay as was being seriously felt about existing extension process of transferring technologies developed at crop research stations to farmers' fields for more agricultural production seems to have been a driving force to initiate launching of Minikit Programme by the Department of Agriculture. The Programme did take off from wheat season of 1977, later covering Rice and Maize from 1978 and Soyebeans from 1979 onward with the main objective to give variety(ies), along with package of related technologies, a wide and rapid dissemination so that they could more quickly get into production if they were accepted by the farmers. The particular objective has arisen out of the country's burning problem of feeding the fast growing population. As land is already limited for expansion of cultivated area, the only alternative remains to increase food production by increased productivity per unit of available land at quickest possible time. Thus Minikit Programme has come as a strategy for increasing food production vis-a-vis growing population

This Minikit Evaluation Project has been taken up by Agricultural Projects Services Centre (APROSC) at the request of HMG/N Department of Agriculture and International Agricultural Development Service (IADS) to evaluate the performance of Minikit Programme. The Project covers the period of 1977/78 through 1979/80 when the Minikit Programme was launched in 72 districts of the country. For the Project study, eight districts, namely, Ilam, Ramechhap, Tanahun, Doti, Sunsari, Chitawan, Nawalparasi and Kailali were sampled representing Hill and Terai agro-climatic conditions of the then four Development Regions of the country.

Allocation of minikits, delivery system of minikits, timeliness of receipt of minikits, condition of minikit packets at the time of receipt, feed-back cards, responsibilities understood on the part of the offices concerned, awareness created by Minikit Programme, reaction on the Minikit Programme from different quarters, Minikit Programme information to farmers, impact of the Programme in the Panchayat and neighbouring Panchayats, general impression of minikit crops on participant farmers, evaluation of minikit performance (crop-wise), farmers' interest in receiving minikits and willingness to pay for them, and effect of Minikit Programme on the dissemination of improved crop varieties were the subjects upon which the study dwelt.

To summarise the findings of the study, it can be inferred that the Minikit Programme has been able to achieve a fair degree of success, considering the topographical nature of the country and such a short period availed to cover seventy-two districts, in exposing the improved crop varieties to a greater number of farmers as many as 49597. As regards its impact upon the addressed farmers, the positive indicators are that the minikit farmers have reported to have increased their crop yields due to minikit varieties and they are also eager to get minikits in future. Moreover, the neighbouring farmers are no less eager to procure seeds of minikit crop varieties for growing by themselves. So it seems Minikit Programme has been a right approach to disseminate improved crop varieties as quickly as possible effecting production in targeted areas.

Not that there were no flaws in the Minikit Programme. Some of the worth mentioning imperfections in the Programme can be listed as follows:

1. There seemed not being held any kind of orientation and/or training programme for the local extension workers supposed to take an active part in the execution of the programme.

2. There was not satisfactory achievement in case of the feedback card system.

3. A feeling as was prevailing in the minds of some RDs and ADs is that the Minikit programme is a programme of Crop Coordinators.

4. There were found instances of a set of minikit intended for only one farmer being split up into more than one making the number of minikit farmers swollen up.

5. There seemed no visible attempt on the part of Commodity programme to analyse the information accrued from the feedback cards for planning and/or modifying research accordingly.

6. There was no consensus among the Crop Coordinators about the uniformity in minikit make-up and feedback cards.

7. There were also seen defects in the delivery system, such as, over-and/or under-receipt of minikits by a district, minikits allocated to one district dispatched to another; some minikits lying unused in the Agriculture Development offices and/or JT/JTAs'/AAs' residences; some minikits not distributed because of their delayed receipt;

minikits received by some farmers after the expiry of planting date; and lack of proper records of minikit distribution in the Agriculture Development Offices, etc.

Recommendations

On the basis of the study, the Minikit Evaluation team puts forth the following recommendations:

1. As Minikit Programme is an excellent extension approach to disseminate and popularize new varieties of crops and improved production technologies among the farmers and also as Minikits are an integral part of Crop Commodity programmes, the Minikit programme should continue as a regular activity.

2. To provide joint responsibility with extension, suitable proportions of costs and targets need to be apportioned between crop research and extension.

3. To ensure efficient supervision and management of the minikits, there should be a training programme for local extension workers and ADOs about Minikits in each of the Crop Coordinators office frequently.

4. There should be uniformity in the make-up of the respective minikits and feedback cards need to be more simplified so that the farmers would understand the meaning and would be more responsive to ensure the effectiveness of Minikit Programme. The number of feedback card may be fixed at one.

5. ADOs and JT/JTAs should maintain the records of farmers and cards and see that the feedback cards are duly filled up, so that a representative can be returned to the concerned Crop Programme to facilitate analysis of the information for better planning of experiments.

6. Timeliness of delivery and improved packaging of minikits to enable satisfactory delivery at the farmers' doors will greatly improve the Programme.

7. Information dissemination as a part of the minikit will enable farmers to improve crop culture, thus accelerating impact on production.

8. To prevent undesirable practice of some farmers repeatedly receiving free minikit seed, zone-wise distribution of minikits within the district should be done so that different Panchayats receive minikits only every third year or less frequently depending on the development of new varieties.

9. Minikits should be considered a type of result demonstration and included in budgeting process in targets (in coincidence with Crop Programmes).

10. Presently farmers receiving minikits do not have the same choice of varieties, since all do not receive a set but only one packet of one variety. Grouping varieties according to FFT performance would enable farmers in an area or region to have equal choice and would assist Crop Coordinators and AIC to determine priorities in seed multiplication programmes.

11. The Department of Agriculture should clearly define the responsibilities of each of the agencies like Crop Coordinators, RDs, ADOs and J1/JTAs who should in turn fulfil their responsibilities regarding the Minikit Programme.

12. The resolutions of Workshop Seminar held at Parwanipur Agriculture Station on Minikit Programme in October 1980 should be implemented earnestly.

CHAPTER 1
INTRODUCTION AND BACKGROUND

1.1 Project Background: The Integrated Cereals Project (ICP)

In response to a concern over declining per capita food availabilities and falling export earnings and following an analysis of the major constraints to agricultural development in Nepal, United States Agency for International Development (USAID) and the Ministry of Food, Agriculture and Irrigation (MFAI) have designed a joint project focusing on the development and dissemination of improved production technology for the major foodgrain crops and the related cropping systems. Based on a USAID project paper and finalised in September 1976, the ICP is funded jointly by His Majesty's Government of Nepal (HMG/N) and by USAID funds granted to HMG/N for this specific project. The ICP is an outcome of contract between HMG/N and IAMS signed in September 1976 and the project was formally initiated in October of the same year. The intended life of the ICP is five years.

The term 'Integrated' was applied to the project as it was one of the first USAID projects to formally link research for the development of technology; on-farm adaptive research to more accurately assess farmers' problems and to test the research generated at the research stations; and a linkage with extension to more rapidly disseminate the technologies of research stations and on-farm testing by commodity teams and in cropping systems. It has integrated the biological disciplines of the commodity programmes with social scientists into a team that considered not only the crop production problems of the farmer but also his socio-economic problems

as well. The project was to address primarily the problems of hill farmers in order to increase productivity of their farms and the general wellbeing of the farmers and their families by more food of better quality and by improved economic conditions. An integrated approach was considered to be more effective in solving the problems of increasing productivity of Nepalese agriculture by improved technologies and accelerating the transfer of existing and new technologies to more quickly make an impact on production.

1.2 Detailed Description of the ICP

1.2.1 Project Goal: To increase the productivity of foodgrain crops in order to increase food availabilities, income and the nutritional status in Nepal. In other words, to increase the average productivity of Nepal's foodgrain cropping systems, particularly on small hill farms in order to address the national objectives of increasing foodgrain production, improving income distribution and raising the nutritional status.

1.2.2 Project Purpose: To assist in strengthening the Government of Nepal's capacity, (i) to generate improved production technology for the major foodgrain crops and related cropping systems, and (ii) to transfer that technology to Nepalese farmers in such a way that it is readily adopted.

1.2.3 Proposed End of the Project Status: After completion of this project, anticipation is made in following lines:

i) a creation/dissemination/adoption system of adaptive research will be established which draws heavily on the experience gained by using the research-cum-demonstration kits on the farmers' land;

ii) cooperating research farms/stations have been upgraded so as to serve as basic facilities to be used in the continuation of the project;

iii) research has been completed on the domestic production, processing, quality control and distribution of newly recommended seed varieties and a decision made as to how the seed industry should be organised and administered, drawing upon research done and experience gained in a pilot seed processing plant established in the then Far Western Development Region; and

iv) capability to conduct small agriculture-specific social science research projects.

1.2.4 Project Outputs Planned:

(1) An outreach system combining research and extension functions at the regional level.

(2) Farming system diagnostic team.

(3) A catalogue of hill farming system models.

(4) Training programme-on-the-job, international and in-country.

(5) A collection and testing programme for existing varieties of "minor crops".

(6) On-farm trials of newly adapted varieties and technology conducted and successful innovations demonstrated countrywide.

(7) Economic analysis of research findings and farming systems.

(8) Technology packages for irrigated and dry land conditions.

(9) System for producing small quantities of foundation seed of selected and tested varieties of rice, maize, wheat, and some "minor crops".

(10) A temporary, experimental seed production and processing plant in the then Far Western Development Region.

(11) Trained personnel in research, system analysis, economics, sociology etc.

(12) The Coordinators' experiment stations upgraded by new constructions (e.g. laboratories, office space, foundation seed facility, staff quarters), begun at Rampur, Bhairahawa and Parwanipur during the transition quarter.

(13) Six Crop Research-cum-Demonstration (CRD) outreach stations at Damak, Dhankuta, Jiri, Jumla, Kakani and Doti upgraded with new storage facilities.

(14) Research on environmental, economic and social aspects of research production programme with decisions made accordingly to improve project.

1.2.5 Objectives of the Minikit Programme:

Minikit Programme is one of the methodologies used to prevent delay in extension process, which implies the rapid transfer of technology from the research programmes to farmers' fields to enable the new practices to more quickly affect production. The programme is a step beyond the conventional extension methods.

The main objectives as outlined by ICP in Nepal are as follows:

i) to give variety(ies) a wide and rapid dissemination so that they could more quickly get into production if they were accepted by farmers;

ii) to provide an opportunity to exercise a choice among the best varieties available; and

iii) to transfer package of new technology from research stations to farmers' fields.

'Minikit' was a term first used by the late Bill Golden to introduce new varieties of rice and new practices in farmers' fields in the Philippines. Since the success of the Programme in the Philippines in the late 60's, it has been used successfully in other countries such as India, Sri Lanka, Pakistan and Bangladesh. It is one of the first steps in the transfer of technology to farmers' fields.

Minikits are a very effective extension programme of distributing small quantities of high yielding varieties to be directly tested in farmers' fields. It is an extension methodology based on research on a single crop or commodity. It has the flexibility of providing farmers with a package of a varying number of ingredients-varieties alone or varieties with other inputs, along with information on varietal characteristics and crop culture.

Irrespective of the technological inputs a key component of the minikit is information. This information includes variety description, cultural practices to use, use of other inputs which can be advantageously used with the varieties, post management practices, and any other points relevant to the crop.

Since the minikit demonstration plots are located in the farmers' fields where other varieties of the same crop are grown, the climate, soil, topography and the cultural practices are, therefore, all the same. If the output on the minikit demonstration plots is higher than those of the adjacent plots of the farmers' fields, the added yields are mainly due to the characteristics of new high yielding varieties.

In addition to obtaining higher yields this programme has many other advantages. It provides opportunities for extension workers to make wide contact with a large number of small farmers in an area. The minikits generate an awareness among farmers regarding new varieties and practices. It induces farmers to participate in varietal choice to grow crops with high productivity. It accelerates the rate of seed multiplication as the farmers will keep a part of their harvest to be used as seeds for the following crop years. If accepted, all these combined effects result in a quick spread of new varieties. The Programme can provide valuable feedback to the research teams regarding varietal acceptance and to some extent varietal adaption. This feedback to agronomists/plant breeders can provide the reason for and constraints to acceptance of new varieties to enable concentration of their efforts on research to overcome these constraints.

The minikit is primarily an extension technique not a research one. It is a test of varietal acceptance of those varieties which were for one reason or another superior to the standards used in research station trials or Farmer Field Trials. Based on farmer acceptance, seed multiplication can be organised which can form the base of intensive production campaigns. It should be noted that adoption of new varieties presents no barriers to the small farmers even though they cultivate fragmented and scattered small fields. Be he a land-lord or tenant, a big or small farmer, a hill or Terai cultivator, no one can deny him the privilege of adopting

new high yielding varieties. From the national economy point of view, the benefits gained by small farmers will have significant impact on income distribution within the agricultural sector throughout the kingdom.

When farmers are convinced to accept the new technology as a result of such trials on their own or their neighbours' fields they may adopt the new varieties in all suitable parcels in the following years. One may say that the minikit demonstration could play the catalystic role in introducing desirable changes for better management practices, since these minikigs offer the opportunity for farmers to see this great potential of these varieties under their own and improved management conditions.

Factors affecting the success of the Minikit Programme are given below:

i) High yielding varieties suitable to local conditions,

ii) Efficient supporting services including (a) well organised delivery system to distribute minikits to farmer participants, in proper time and quantity, and (b) well trained extension workers to assist farmer participants to adopt new technology;

iii) Proper information on varietal characteristics, adaptation, proven cultural practices etc.; and

iv) Adequate feedback mechanism to enable changes to research and expansion of seed programmes and defined area production campaign based on accepted varieties.

The Minikit Programme was started in 1978 (fall of 1977 for wheat) after seed production for that purpose was carried out in the three cereal crop programmes during 1977. The Kit Programme in soyabean was started in the year 1979/80 with Chitawan and Makawanpur as priority districts. The Programme has covered 72 districts of the Kingdom. The excluded districts are Humla, Mugu, and Kathmandu. The distribution of the minikits is not uniform among the geographical regions but essentially is conditioned by agro-climatic conditions and crop production of the regions. In the mid-hills and Terai, wheat, maize and rice minikits have been distributed whereas in the high hills only maize and wheat minikits have been distributed. Wheat minikits were confined to the Western and Far Western high hill regions only.

CHAPTER 2
SCOPE OF STUDY

2.1 Objectives of the Study

This study has the following objectives:

i) Evaluation of all feedback cards which have been received by the Coordinated Programmes;

ii) Assessment of the delivery system; and

iii) Farmers' interviews to assess acceptance and spread of varieties and other technologies which may have been a part of the minikits.

2.2 Description of the Study

i) The study to be carried out will analyze information received from the cards returned to the various Commodity Programmes. Two cards with rice minikits were distributed, one (known as acknowledgement card) to be returned when the minikits were received. This card will be useful in determining some aspects of delivery system such as timeliness of minikit receipt, time of seed-bed preparation, transplanting, conditions of seeds to some extent, use of other inputs and farmers' contact with Crop Programmes.

The second post card was to be returned following the harvest. This card would provide information on production and varietal characteristics. In addition there is opportunity to get reactions from farmers regarding their acceptance of varieties and characteristics which they liked and disliked.

Only one feedback card was distributed with other commodity minikits like maize and wheat and was to be returned following the harvest. That was supposed to carry back various information such as performance of varieties, their qualifications and disqualifications for acceptance and non-acceptance by farmers etc.

These cards provide information regarding acceptance on a broadly defined agro-climatic areas and on a varietal basis. These should give some indications of varietal adaptation and adoption as well. This will be significant in planning future seed production programmes.

ii) Evaluation of the delivery system will attempt to determine the effectiveness of the Minikit Programme to provide a means of widespread dissemination of new crop varieties. Interviews with Crop Coordinators, RDs of Agriculture, ADOs, JTs, JTAs and farmers will enable an evaluation of this phase of the Programme.

These interviews will provide suggestions on how the minikit could be of greater benefit to farmers and how the constitution and the delivery system of minikits and institutional support can be improved. Value of information accompanying the seed, and feedback to researchers and planners will be provided by the interviews.

iii) Farmers' interviews are to be conducted in the sampled districts to determine acceptance of varieties over the three year period the programme has been operative. A critical measure of acceptance is the uses made by the

farmers receiving the minikits. Seed which he has given away, sold or bartered to his neighbours to use for their crops indicates the spread which may be achieved by this programme. Neighbours are also to be sampled for their reactions to varieties received in this way to the varietal performance itself and the offering of the farmer to farmer seed dissemination system.

Acceptance should identify the characteristics of the varieties which the farmers liked and which caused them to prefer the variety. Rejection should identify characteristics of the varieties which were not liked by farmers. These should be determined to enable researchers to improve upon the preferred varieties.

In addition it should be possible to determine (a) whether the spread has been to a significant percentage of the area, (b) rate of spread, and (c) impact which may vary with crop variety and among crops as affected by relative adaptation, acceptance and availability of other inputs.

Since increase in production is possible mainly by changes in technology, this study will provide feedback to the researchers regarding many aspects of the technological package which accompanied the seed. Another factor to be determined will be the effect which minikits have had on culture of other varieties which the farmer may be using.

2.3 Methodology

Seven different sections of people along with location were targeted to be sampled and interviewed to obtain required information for the study. They were four Crop Coordinators of related crops, four ADs of Agriculture, eight ADOs of the sampled districts, JT/JTAs of the sampled districts, minikit farmers (who received minikits), non-minikit farmers (who did not receive minikits), and the key informants (source to obtain a lot of necessary secondary data).

2.3.1 Sampled Districts:

The eight districts which include Ilam, Ramechhap, Tanahun, and Doti in the mid-hill; Sunsari, Chitawan, Nawalparasi, and Kailali in the Terai were sampled out of 72 districts which have got minikits. These eight districts were sampled purposively looking at the distribution of minikits by the Crop Programmes, namely, rice, maize, wheat and pulse crops (soyabean) depending upon the number of farmers (on the basis of minikits allocated to them). Another factor that was considered is that there would be two districts (one hill and the other Terai) of each Development Region, in order to minimize the regional differences.

The tables given below furnish us with certain basic information about the sampled districts.

Table 1

District Data: Eight Sampled Districts

Particulars		Eastern Development Region		Central Development Region		Western Development Region		Far Western Development Region	
		Mechi Zone	Kosi Zone	Janakpur Zone	Narayani Zone	Gandaki Zone	Lumbini Zone	Seti Zone	
		Ilam	Sunsari	Ramechhap	Chitawan	Tanahun	Nawalparasi	Doti	Kailali
Geographical Location	North Latitude	26°40'-27°8'	26°25'-26°55'	27°23'-27°50'	27°21'-27°46'	27°36'-28°05'	27°21'-27°47'	28°52'-29°28'	28°22'-29°
	East Longitude	87°40'-88°10'	87° 5'-87°21'	85°50'-86°35'	83°55'-86°37'	83°57'-84°24'	83°36'-84°25'	80°30'-80°14'	80° -81°15'
Area (in Sq Km)		1571	1265	1544	2510	1511	935	2904	2742
Population		177442	343007	163470	257332	224508	309692	151376	258259
Density of Population (Persons/sq km)		113	271	106	103	149	331	52	94
Total Cultivated Area (in Hectare)		20100	57200	12500	48000	13400	42000	51500	20400
Households (1981)	Total	29353	56925	29970	39930	38601	48545	27506	34269
	Agricultural	26935	31462	29524	33122	35691	40244	26795	26002
Elevation above sea level (in m)		2000-3679	152-914	1200-4848	244-6380	1000-2134	91-1936	305-3430	179-1957
Annual Rainfall (in mm)		1575	2697	1016	1693	1935	1246	861	1577
Average Annual Temperature	Minimum	16.01	18.20	8.7	20.42	18.34	17.33	17.09	18.65
	Maximum	21.83	30.53	19.2	28.52	31.49	30.25	25.44	31.24

Note : Data pertaining to population are according to the preliminary results of the individual statistics of the National Census 2038 B.S. (1981) published on 7 February 1982 by the Central Bureau of Statistics, HMG/N.

Table 2

Area, Production and yield of major crops in sample Districts

(1976/77-1980/81)

Area in hectare
Production in metric tonnes
Yield in mt/ha

Year	crop	Eastern Development Region						Central Development Region						Western Development Region						Far Western Development Region					
		Mechi Zone			Koshi Zone			Janakpur Zone			Narayani Zone			Gandaki Zone			Lumbini Zone			Seti Zone					
		ILAM			SUNSARI			RAUTAHAT			CHITAWAN			TANAHUN			NAWALPARASI			DOTI			KAILALI		
		AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD	AREA	PRODUCTION	YIELD
1976/77	Paddy	8920	22920	2.57	46231	80992	1.75	4200	9800	2.33	23335	52970	2.27	5000	13343	2.67	36138	75528	2.09	4998	12690	2.54	44800	75720	1.69
	Wheat	2179	3050	1.40	8745	9307	0.95	855	949	1.11	11827	14192	1.20	2500	3000	1.20	12509	11883	0.95	4872	2733	0.58	8645	8212	0.95
	Maize	5100	12720	1.57	3914	5557	1.42	8700	16320	1.88	22503	47254	2.10	9000	18156	2.02	9000	17732	1.97	4700	8250	1.76	11200	15600	1.39
	Millet	2000	2600	1.30	700	595	0.85	2370	2850	2.33	1950	1755	0.90	6000	7200	1.20	500	450	0.90	1350	1640	1.21	1400	1220	0.87
	Barley	70	45	0.64	120	102	0.85	78	70	0.90	180	140	0.78	60	57	0.95	97	70	0.72	690	727	1.05	30	17	0.57
	Potato	2418	15886	6.57	525	3414	6.50	1600	8079	5.05	844	5735	6.80	650	3428	5.27	130	1040	8.00	350	2097	5.99	382	2253	5.90
	Oilseed	1386	607	0.44	2090	921	0.44	210	86	0.41	9286	5781	0.62	500	250	0.50	5547	3172	0.57	700	314	0.45	8550	6912	0.81
	Sugarcane	20	280	14.00	1326	24666	18.15	8	112	14.00	330	4554	13.80	94	1268	13.49	2605	46499	17.85	20	266	13.30	50	800	16.00
	Tabacco	8	4	0.50	140	107	0.76	8	6	0.75	60	42	0.70	25	15	0.60	81	56	0.69	15	10	0.67	60	41	0.68
1977/78	Paddy	7140	19130	2.68	46330	93130	2.01	4200	8730	2.08	24810	47140	1.90	10500	17120	1.63	33660	66840	1.99	4900	12600	2.57	46670	81680	1.75
	Wheat	2340	2920	1.25	7730	8500	1.10	880	750	0.85	14800	18800	1.27	4010	4640	1.16	12930	13580	1.05	4670	4200	0.90	10090	10590	1.05
	Maize	9000	13500	1.50	4340	6160	1.42	8260	13940	1.69	26230	55050	2.10	10870	18630	1.71	9140	18910	2.07	4600	7700	1.67	11420	15890	1.39
	Millet	2430	2840	1.17	820	920	1.12	2370	1900	0.80	1180	1080	0.92	5420	6800	1.25	1380	1110	0.80	1280	1560	1.22	1400	1390	0.99
	Barley	30	30	1.00	140	120	0.86	60	60	1.00	160	120	0.75	50	40	0.80	40	30	0.75	690	730	1.06	30	20	0.67
	Potato	2930	19510	6.69	550	3570	6.49	1520	8080	5.32	830	4480	5.40	410	2050	5.00	60	380	6.33	340	1970	5.79	450	2520	5.60
	Oilseed	1760	860	0.49	3210	1550	0.48	220	80	0.36	10200	8570	0.84	680	350	0.51	4860	2230	0.46	680	350	0.51	10800	7020	0.65
	Sugarcane	20	280	14.00	1330	21940	16.50	10	140	14.00	320	4160	13.00	40	670	16.75	3520	58010	16.48	15	200	13.33	50	740	14.80
	Tabacco				150	110	0.73				60	40	0.67	20	10	0.50	80	50	0.63				60	40	0.67
1978/79	Paddy	7500	20780	2.77	50350	83080	1.65	4150	8630	2.08	24050	45650	1.90	10500	17850	1.70	35170	69840	1.99	5000	12240	2.45	46670	81680	1.75
	Wheat	1700	2040	1.20	7170	8600	1.20	500	500	1.00	10630	13820	1.30	5610	6730	1.20	12470	13720	1.10	4700	4230	0.90	6320	6950	1.10
	Maize	9000	13500	1.50	5970	8470	1.42	8300	14010	1.69	26230	41970	1.60	11550	18480	1.60	9140	18900	2.07	4500	7530	1.67	11150	16730	1.50
	Millet	2430	2840	1.17	1020	1140	1.12	2370	1900	0.80	1200	1100	0.92	5420	6800	1.25	1380	1110	0.80	1300	1580	1.22	1400	1400	1.00
	Barley	50	40	0.80	130	100	0.77	80	660	0.75	150	120	0.80	50	40	0.80	100	80	0.80	660	660	1.00	30	20	0.67
	Potato	3200	22400	7.00	520	2300	4.42	1500	7500	5.00	820	4100	5.00	110	600	5.45	130	650	5.00	350	1750	5.00	400	2000	5.00
	Oilseed	1750	870	0.50	5720	3150	0.55	200	80	0.40	10210	7140	0.70	960	580	0.60	6940	3470	0.50	650	320	0.49	11500	9200	0.80
	Sugarcane	10	140	14.00	1200	21600	18.00	10	100	10.00	350	5250	15.00	40	560	14.00	3320	56440	17.00	10	120	12.00	50	750	15.00
	Tabacco				1200	90	0.08				50	30	0.60	30	10	0.33	100	50	0.50				60	40	0.67
1979/80	Paddy	7500	18700	2.49	50350	91390	1.82	4150	7780	1.87	24840	45500	1.83	10170	18660	1.83	35470	53020	1.49	5000	8570	1.71	42010	32670	0.78
	Wheat	1730	2400	1.39	8000	9600	1.20	500	560	1.12	11630	16280	1.40	5630	5070	0.90	13720	15090	1.10	4700	4400	0.94	7000	8210	1.17
	Maize	6300	8100	1.29	5790	7620	1.28	7470	7000	0.94	22160	10490	0.47	10970	12940	1.18	8230	7560	0.92	4500	7530	1.67	11150	16730	1.50
	Millet	2430	2840	1.17	1070	1050	0.98	2320	1800	0.78	1000	940	0.94	5420	6800	1.25	1380	1110	0.80	1300	1390	1.07	1400	1340	0.96
	Barley	50	50	1.00	120	120	1.00	80	70	0.88	150	130	0.87	50	50	1.00	100	90	0.90	640	640	1.00	30	30	1.00
	Potato	3200	20800	6.50	500	1750	3.50	1650	9070	5.50	800	4000	5.00	110	600	5.45	150	750	5.00	350	1570	4.49	350	1610	4.60
	Oilseed	1700	850	0.50	5300	1850	0.35	170	60	0.35	11000	4950	0.45	360	580	0.60	5700	2250	0.39	650	320	0.49	7000	4900	0.70
	Sugarcane	10	140	14.00	1210	21780	18.00	20	220	11.00	350	5120	15.49	40	560	14.00	3300	59400	18.00	10	120	12.00	90	1390	15.44
	Tabacco				120	90	0.75				50	30	0.60	30	10	0.33	100	60	0.60				60	40	0.67
1980/81	Paddy	11470	27530	2.40	50340	91500	1.82	4500	9000	2.00	24820	48190	1.94	9400	17950	1.91	35460	70770	2.00	5000	10400	2.08	49260	86700	1.76
	Wheat	2180	3010	1.38	5140	6940	1.35	1020	1170	1.15	12450	18160	1.35	4460	4910	1.10	16900	21600	1.35	4650	4560	0.98	9450	11530	1.22
	Maize	8900	14350	1.61	5980	9530	1.59	11000	17000	1.53	26200	45060	1.72	11570	18500	1.60	9000	18000	2.00	4270	6830	1.60	11420	17470	1.53
	Millet	2100	2730	1.30	600	590	0.98	2500	2500	1.00	1100	1040	0.95	5400	6750	1.25	1350	1210	0.90	1270	1400	1.10	1390	1400	1.01
	Barley	70	60	0.86	120	110	0.92	90	80	0.89	90	80	0.89	60	50	0.83	110	90	0.82	100	80	0.80	30	30	1.00
	Potato	2420	17900	7.40	910	5000	5.49	2000	10000	5.00	810	3240	4.00	110	600	5.45	150	830	5.53	350	1570	4.49	350	1860	5.31
	Oilseed	1390	610	0.44	6940	4510	0.65	200	80	0.40	12000	7200	0.60	150	60	0.40	7000	4900	0.70	640	320	0.50	10920	7640	0.70
	Sugarcane	20	280	14.00	910	18200	20.00	10	140	14.00	340	5440	16.00	40	560	14.00	5500	110000	20.00	10	130	13.00	70	1190	17.00
	Tabacco				120	90	0.75				40	30	0.75	30	20	0.67	110	80	0.73				60	40	0.67

Source: Department of Food and Agricultural Marketing Services, HMG/N.

2.3.2 Households Receiving Minikits:

The differences between the number of minikits allocated by the Commodity Programmes to the ADOs and the number of minikits distributed to farmers through ADOs appeared very big. Their distribution in the panchayats within the district was generally very sparse and scattered. Taking into consideration money and time factors the panchayats have been sampled purposively to get required and reasonable size of sample of all kinds of minikits. In sampling the panchayats within the districts, the panchayats with maximum minikit concentration and the panchayats with minimum minikit concentration had been avoided as far as possible to overcome biasness which could have occur due to the different reasons.

Ten per cent of the households receiving minikits within the panchayats identified for sampling have been chosen at random basis with a multistage sampling technique from the list of farmers furnished by the Agriculture Development Offices of the sampled districts. Wherever this percentage provided less than 20 households for a crop then the minimum number of minikit farmers to be interviewed was fixed at 20.

2.3.3 Households not Receiving Minikits:

The sample of farmers who have not received minikits of any commodity has also been taken into account in order to determine spread effect. The size of sample from these farmers (not receiving minikits) was fixed at one-tenth of the size of the sampled farmers

receiving minikits in the district. As principle, such sample of farmers could have been taken commodity-wise, that means among the farmers who grew the particular commodity on their parcels but have not received minikit of the commodity. Since neither ADOs would have the list of such farmers commodity-wise nor would cadestral surveys provide concrete information of those districts, they had been selected randomly in the sampled panchayats.

The chief objective of this portion of the study was to determine the spread of minikit varieties from the variety introduction provided by the minikits and to assess what impact this spread had on production in the panchayat. If varieties are acceptable it is assumed that minikit varieties will become a part of the farmer to farmer seed dissemination system. It may be assumed that from each minikit farmer as many as five more farmers would receive seed in successive years.

2.3.4 Key Informants (Key Farmers):

Key informants who are farmers in the villages and used to have alround information of their villages. Such informants, at least two in number, were interviewed in each sampled panchayat, since the information furnished by them could have been verified to each other and judged for authenticity.

2.3.5 Pre-test of Questionnaire:

A pre-test of the questionnaires was conducted in Parsa district which was not among the sampled districts to assess the instrument developed. This was applied to

all the different sets of questionnaires except of the Crop Coordinators, RDs of Agriculture and ADOs. After thorough examination of the answers necessary improvements were made in the devices. Consequently, a serious need of an interview with JT/JTAs was felt and questionnaire for JT/JTAs was developed before setting in the final field survey.

The necessary instructions were also given to the interviewers since the skills they possess and the approaches they make are of prime importance for such kind of study. Because the human factor is involved at all the levels of survey, it is advisable that the interviewers should know certain techniques to command the interest and helpful attitude of the clients during the course of interview. Respondents, by no means, should feel it a burden and waste of time since during these days farmers are frequently requested for information which may not appear to be a direct gain to them.

2.3.6 Availability of Support Services:

Since the fullest potential expression of high yielding varieties of crops are generally very much tied up with the modern inputs, the concerned support services are essential for the success of Minikit Programme. Those existing services and their number particularly in eight sampled districts are shown in Annex 1, Appendices 1, 2 and 3.

CHAPTER 3
RESULTS AND DISCUSSION

3.1 Delivery System

There are several tiers reported to be involved in the delivery system of minikits right from the Commodity Programme to the farmers who actually use them. Those are Commodity Programmes, RDA, Agriculture Development Offices, and in some cases JT/JTAs and/or AAs.

In the course of this study the following discrepancies were noticed:

a) Difference between allocation of minikits and receipt of the same;

b) Late delivery of minikits to RDs, ADOs and farmers;

c) Broken packets of minikit and contents thereof mixed with each other;

d) Affluent farmers receiving more minikit packets year after year; and

e) Some farmers receiving minikits not traced.

a) Difference between allocation of minikits and receipt of the same:

During the last three years (1977/78 - 1979/80) a total of 49,447 minikits of the major crops (13,950 kits of rice; 13,486 kits of maize; and 22,011 kits of wheat) have been forwarded to 72 out of 75 districts of the Kingdom and to some special projects such as Kankai Irrigation Project, Janakpur Anchal Agriculture Development

Project, Chitwan Irrigation Project, and Narayani Irrigation Project by the Commodity Programmes. 150 soyabean minikits were allocated to Chitawan, one of the two priority districts, in the year 1979/80.

Annex 2, Appendix 1, Table 1 depicts the number of minikits allocated to 72 districts (including eight sampled districts) of the Kingdom of Nepal by the four Crop Programmes during 1977/78 - 1979/80 period and the number of minikits received for distribution by the Agriculture Development Offices of the eight sampled districts during the same period. A total of 49,447 minikits (13,950 kits of rice or 28.21 per cent; 13,486 kits of maize or 27.27 per cent; and 22,011 kits of wheat or 44.52 per cent) was allocated to 72 out of 75 districts (including eight sampled districts). The shares of the eight sampled districts in the total minikits of rice, maize, and wheat thus allocated to 72 districts were 36.20, 12.27 and 21.44 per cent respectively. Thus a total of 11,575 minikits (5,050 kits of rice or 43.63 per cent, 1,655 kits of maize or 14.30 per cent, 4,720 kits of wheat or 40.78 per cent and 150 kits of soyabeans or 1.29 per cent) was allocated to the eight sampled districts during 1977/78 - 1979/80 period.

Quite a big difference has been seen between the total number of minikits dispatched and the total number of minikits received by districts and distributed among the participant farmers. In order to locate such big discrepancies, letters were sent with the concurrence of Department of Agriculture to each of the 64 districts to

report about total number of minikits received by them crop-wise and year-wise. But unfortunately, response came from only 47 districts and that number (crop-wise) has been shown in Table 3 given below.

Table 3

No. of Minikits Allocated to, Received and Distributed by Agricultural Development Offices of 47 Districts*

Particulars	CROP				
	Rice	Maize	Wheat	Soyabean	Total
No. of minikits allocated	6,751 (5,050)	8,548 (1,655)	11,197 (4,720)	- (150)	26,496 (11,575)
No. of minikits received	6,670 (981)	9,626 (1,398)	9,626 (1,764)	- (128)	25,922 (4,271)
No. of minikits distributed	6,558 (981)	9,626 (1,398)	9,579 (1,764)	- (128)	25,763 (4,271)

* Sampled districts are not included.

Note: The figures in parantheses are of sampled districts.

Annex 2, Appendix 1, Table 1 indicates that most of the sampled districts have received minikits far less than the number supplied to them except Nawalparasi which has reported a higher number of minikits received than dispatched in case of wheat and maize and Ilam in maize. It clearly indicates that in course of delivery process, some districts got more minikits than allocated by respective Commodity Programmes. This has also been supported by off-

hand information collected during field survey in Tanahun, Nawalparasi and Parsa districts. They had priority to use some minikits allocated to other districts, since:

i) minikits reached RDs either a little late or RDs did not manage somehow to deliver them to the destination in time, so gave to nearby districts;

ii) sometimes minikits allocated to neighbouring districts reached roadhead districts and expectants did not pick them up;

iii) sometimes coordinated programmes might not have been able to move allocated minikits due to lack of transport and money constraints at nick of time and consequently delivered to nearer willing districts to utilize them without adjusting the formal allocation chart;

iv) some districts have failed to keep proper record of receipt and distribution of minikits among the farmers; and

v) in some cases some extension workers or their friends have taken some minikits to their home districts, and consequently causing the record of distribution to fall short.

b) <u>Late delivery of minikits to RDs, ADOs and farmers</u>:

One important requirement of the purposeful utilization of minikits is that the minikits reach the participant farmers in time, so that they get sufficient time to make necessary arrangements to use them properly.

The question of timely receipt of minikits has been asked with RDs, ADOs, JT/JTAs, participant farmers and key-informants. One out of four RDs, declined to respond to the interviewer on the ground that the considered Minikit Programme to belong to the Commodity Programmes, and his responsibility was just to pass on the minikits to the districts as exchange post office. Two, out of the remaining three RDs, interviewed reported timely receipt of minikits of some crops except in some years. The problem with timelinsss appears to have occurred in the Far-Western Development Region which is practically away from all the concerned Commodity Programmes and with less transport and communication developed.

Six, out of eight ADOs of the sampled districts, reported timely receipt of minikits of some crops except in some years. Two ADOs of the sampled Hill districts, Doti and Ramechhap, reported not to have received minikits of all commodities in time.

The majority of JT/JTA respondents, irrespective of sampled Hill and Terai districts, have reported timely receipt of minikits. The percentage of those who did not receive minikits in time ranged from 5 to 70 (Table 4).

In this connection one thing was noteworthy that some RDs, ADOs or JT/JTAs interviewed had not served full time for the whole period covered by the evaluation.

Table 4

Timeliness of Receipt of Minikits According to JT/JTAs

Districts	No. of JT/JTAs Interviewed	CROPS							
		Rice		Wheat		Maize		Soyabean	
		Yes	No	Yes	No	Yes	No	Yes	No
Ilam	10	6 (60)	4 (40)	-	-	9 (90)	1 (10)	-	-
Ramechhap	10	3 (30)	7 (70)	-	-	8 (80)	2 (20)	-	-
Tanahun	8	7 (88)	1 (12)	-	-	7 (88)	1 (12)	-	-
Doti	5	4 (88)	1 (12)	4 (80)	1 (20)	3 (60)	2 (40)	-	-
Sunsari	16	10 (62)	6 (38)	14 (87)	2 (13)	13 (81)	3 (19)	-	-
Chitawan	20	18 (90)	2 (10)	12 (60)	8 (40)	19 (95)	1 (5)	17 (85)	3 (15)
Nawalparasi	14	13 (93)	1 (7)	12 (86)	2 (14)	14 (100)	-	-	-
Kailali	8	5 (62)	3 (38)	3 (38)	5 (62)	7 (87)	1 (13)	-	-
Total	91	66 (73)	25 (27)	45 (71)	18 (29)	80 (88)	11 (12)	17 (85)	3 (15)

Bracketed figures indicate percentages.

On an average, 83 per cent of 170 respondent rice farmers of eight sampled districts have reported timely receipt of minikits. (Annex 2, Appendix 1, Table 2a and 2b).

However, three out of four Crop Coordinator respondents were inclined to admit late delivery of minikits. This is conflicting with the farmers who in majority have reported timely receipt of minikits.

However, more or less some delay in the arrival of minikits at all levels of the delivery system has been reported. The phenomenon of delay in delivering the minikits from one stage to another has not been seen particularly to one stage only during the period of first three years which has been considered for evaluation work. It has occassionally occurred at all levels like Commodity Programmes, RDA, Agricultural Development Offices and even at JT/JTAs. Though none of JT/JTAs interviewed has accepted this fact, interviewers found some minikits of previous seasons lying unused at their places. This could be one of the reasons for difference between the number of minikits dispatched by the Commodity Programmes and the number distributed at districts. Since RDs might have not dispatched minikits which arrived very late by considering it wastage of money and time on transport. But this very corollary does not seem exactly true, since only one out of three RD respondents has answered "no" against the question "were you able to deliver in time all the minikits that you received ?" Regarding other RDs who said "yes" to that question, the evaluation team found several normal rice minikits (more than 100) distributed under the Programme of

FY 1979/80 lying unused in the regional and/or district headquarters, and the reason for unused minikits was "delayed receipt".

c) Broken packets of minikit and contents thereof mixed with each other:

Though in principle minikits should travel from a Commodity Programme to RDs, RDs to ADOs and then ADOs to the farmers through JT/JTAs, in practice the Commodity Programmes directly dispatch minikits to the district(s) and in some cases, allocate minikits of neighbouring district(s) to nearby roadhead district(s) for the further movement. Later, those concerned districts pick up their shares to distribute among the farmers. This system of delivering minikits might have been practised perhaps to save time and cost which is bound to occur in to and fro transport.

Two out of three RD respondents have reported receipt of damaged minikits. The extent of damage estimated by them is 1-2 per cent in one region and 10-15 per cent in another. The frequency and the extent of damage of minikits appeared comparatively greater in Far Western Region than anywhere else.

The ADOs were interviewed to provide a complete record of crop-wise damage of minikits received by them during the three year period. Many ADOs failed to furnish that data because of their poor record-keeping system. However, some were able to provide out of their memories and that was their experiences during their stay in the

respective districts. And thus two out of eight ADOs could recall and estimate the extent of damage in some crop minikits of some years ranging from 5-12 per cent. Such damage is not tied with minikits of one specific crop. However, the percentage of damage of maize minikits has been reported to be smaller than of rice and wheat minikits. It might be because all the contents are repacked in cardboard cartons, while others are contained just in cloth bags.

Though other six ADOs have not recorded the extent of damage of minikits in the questionnaires they were asked to fill but, in the course of interview, verbally admitted that the receipt of damaged minikits was in a meagre number which is but natural to occur during transport and handling. The extent of damage does not appear correlates neither with hill and Terai districts nor with the distance of districts from the Crop Programmes. Nawalparasi has reported a 10 per cent damage every year in rice and wheat minikits while Tanahun has reported less. The ADO of Kailali district has reported that most of the maize minikits he received in 1979 were found damaged.

Annex 2, Appendix 1, Table 2a shows the response of farmers in four sampled hill districts on the condition of minikits they received. Out of 221 farmers interviewed (79 rice minikit farmers, 134 maize minikit farmers, and 8 wheat minikit farmers), 72 rice minikit farmers (91 per cent), 130 maize minikit farmers (97 per cent) and all wheat minikit farmers reported the condition of minikits

to be good. On the other hand, five rice minikit farmers (6 per cent), and four maize minikit farmers (3 per cent) reported condition to be bad and two rice minikit farmers (3 per cent) could not respond in this respect. Annex 2, Appendix 1, Table 2b, on the other hand, shows the response of farmers in the four sampled Terai districts on the condition of minikits they received. Out of 391 farmers interviewed (91 rice minikit farmers, 183 wheat minikit farmers, 91 maize minikit farmers and 26 soyabean minikit farmers), 86 rice minikit farmers (95 per cent), 179 wheat minikit farmers (98 per cent), 84 maize minikit farmers (93 per cent) and all the 26 soyabean minikit farmers found minikits in good condition. Three rice minikit farmers (3 per cent), two wheat minikit farmers (1 per cent), and four maize minikit farmers (4 per cent) found them in bad condition whereas two rice minikit farmers (2 per cent), two wheat minikit farmers (1 per cent), and three maize minikit farmers (3 per cent) reported nothing in this respect.

d) <u>Affluent farmers receiving more minikit packets year after year</u>:

The interviewers were also told to collect off-hand relevant information on the on-going Minikit Extension Programme. Almost all the teams in the eight sampled districts observed that 30-40 per cent of farmers interviewed had received minikits each year irrespective of crops. The team of interviewers in one of the sampled districts had found some families receiving minikits even in the name of XYZ or in the names of members of their

families as many minikits which could cover their available land in the season. It was found that AAs of district availed the chance to use one or two minikits almost each year. 38 per cent of the ADO respondents have also admitted that the same farmers have received minikits every year irrespective of crops. 62 per cent of ADOs interviewed have considered the same farmer getting minikits of more than one crop. It has also been learnt that ADOs had hard time to resist the pressure of district level panchayat workers, the familiar persons and the government officials' demand for the minikits. Record of such distribution either has not been kept or kept in the names of JT/JTAs and/or fake persons.

e) Some farmers receiving minikits not traced:

In the course of this study, it was found that some minikit receiving farmers as reported by ADOs of the sampled districts were not found physically living in the area as per their addresses. In Tikha Village Panchayat of Doti district, interviewers happened to interview five farmers of the village as per sampling, but, all of them denied the receipt of any minikit. To confirm this the team contacted the Pradhan Panch and other persons of the village. They too confirmed in writing that those farmers had not received any minikit.

In connection with such type of distortions, ADOs were asked for possible reasons against assurance that their names will be kept confidential. Most of their statements were in the following lines: Agriculture Development Office while being "Krishi Shakha" cannot

withstand the growing pressure of District Panchayat people and the employees of the Chief District Officer's Office and consequently minikits are being served to keep them all the time cooperative in the Programme as well as in the personal affairs. Some of them either take to their own districts or use in their kitchen garden (especially maize minikits) or even in the same district. They made further statement that it is hard to keep their record since ADO does not know where they use them. So the record of minikits distributed in such a way is generally not kept or, if kept, is kept in the names of XYZ. Some enthusiastic and keen interested JT/JTAs who also look after their agriculture back at home, being impressed with the value of minikits, have taken some minikits to their respective home districts and used properly. It is believable since a man who takes such pain to carry one or two minikits all the way home must utilise them in proper way.

3.2 Feedback Cards

To know the reactions of the farmers on minikit, the performance of the varieties and thereby to make the future planning of minikit more realistic, the Crop Coordinators except the soyabean one had sent special forms called "Feedback cards" along with the minikits. The cards were supposed to be filled up by the concerned farmers and then to be returned to the Crop Programmes. These cards contain (Annex 2, Appendix 3, 4 and 5) a few questions that the farmer(s) receiving minikit(s) are supposed to answer and return the cards to the respective Crop Programmes themselves or through JT/JTAs or through Agriculture Development Offices of their districts, so that they can

focus on the spread of farmer selected variety(ies) in a locality rather than try to popularise many varieties which have no appeal to the farmers in the locality.

Of the two postcards contained in the rice minikits, the first card should be returned after the transplantation of the seed whereas the second card, maize and wheat minikit feedback cards should be returned after the crops are harvested. Return of these cards by the farmers and receipt of the cards by the crop programmes facilitates the latter in assessing the minikit performance in rice, maize, wheat and other criteria by which farmers determine acceptability of varieties.

A gap has been seen in the number of feedback cards distributed along with the minikits to the districts and the number of cards received therefrom. The number of districts allocated with rice, maize and wheat minikits was 37, 70 and 34 respectively. It is a matter of astonishment that the NRDP received 8033 first cards from 38 districts instead of 37 and only 1656 second cards from 31 districts under its programme of 1979/80. Similarly, the NMDP received 1064 cards from only 51 districts in 1979/80. Likewise, the NWDP received 1427 cards from 20 districts in 1978/79 and 413 cards from 25 districts in 1979/80. The number of feedback cards returned from different districts (including eight sampled districts) is shown in Annex 2, Appendix 1, Table 3).

Sampled district-wise allocation of minikits and receipt of feedback cards therefrom distributed along with the minikits under the rice and maize minikit programmes

of 1979/80 and wheat minikit programme of 1978/79 and 1979/80 are tabulated in Table 5. The Crop Programmes could receive cards not from all districts allocated with minikits.

The NRDP received a total of 1432 out of 2000 first cards (71.60 per cent) along with minikits allocated to eight sampled districts including Doti wherefrom not even a single card was received though it was allocated with 50 kits in 1979/80, and 915 out of 2000 second cards distributed along with 2000 kits (45.75 per cent) allocated to the sampled districts (including Sunsari which was allocated with 100 kits but returned not a single card).

The NMDP received a total of 96 out of 590 cards (16.27 per cent) distributed along with the minikits under its programme of 1979/80 from six sampled districts including Sunsari wherefrom four cards were received without being allocated with minikits and excluding Nawalparasi and Chitawan which returned not a single card though 55 and 75 minikits respectively were allocated.

The NWDP received a total of 386 out of 1665 cards (23.18 per cent) distributed under its programme of 1978/79 from four sampled districts including Sunsari which returned 13 cards even though none were allocated single minikit and only 48 out of 3060 cards (1.57 per cent) included in the minikits allocated to four of the eight sampled districts including Chitawan which inspite of being allocated with 500 minikits returned not even a single card and excluding Nawalparasi wherefrom 13 cards were received though no minikit was allocated to it under the Wheat Minikit Programme of 1979/80.

The receipt of the cards from a district must have equalled with the number of cards included in the minikits allocated to that district by the Crop Programmes and if not, at least with the number of minikits distributed by the Agriculture Development Offices. But we have seen that this is not the case. Many causes can be traced for this state of affairs, for example:

i) over-and/or under-receipt of minikits by a district;

ii) dispatch of minikits allocated to a district to another;

iii) picking up of minikits allocated to a district by another;

iv) minikits allocated and received but cards not returned;

v) minikits lying idle in the Agriculture Development Offices and/or JT/JTA's and/or AA's residences;

vi) cards not returned or posted by farmers themselves or through JT/JTAs or through Agriculture Development Offices;

vii) minikits not distributed because of their delayed receipt by the Agriculture Development Office;

viii) minikits received by the farmers after the planting date is over; and

ix) in some cases, feedback cards were missing and this might be the reason why concerned Crop Programmes have received duplicate cards filled by the farmers.

Table 5

No. of Feedback Cards Received from Eight Sampled Districts

Districts	MINIKIT PROGRAMME														
	Rice 1979/80					Maize 1979/80			Wheat 1978/79			Wheat 1979/80			
	No. of Minikits Allocated	First Cards Received		Second Cards Received		No. of Minikits Allocated	Cards Received		No. of Minikits Allocated	Cards Received		No. of Minikits Allocated	Cards Received		
		No.	%	No.	%		No.	%		No.	%		No.	%	
Ilam	50	40	80.00	10	20.00	150	13	8.67							
Ramechhap	100	85	85.00	46	46.00	100	29	29.00							
Tanahun	300	101	33.67	63	21.00	110	31	28.18							
Doti	50	-	-	1	2.00	40	2	5.00				2000	18	0.09	
Kailali	100	78	78.00	57	57.00	60	17	28.33	65	11	16.92	60	10	16.67	
Nawalparasi	200	197	98.50	43	21.50	55	-	-	800	218	27.25	-	13	-	
Chitwan	1100	913	83.00	695	63.18	75	-	-	800	144	18.00	500	-	-	
Sunsari	100	18	18.00	-	-	-	4	-	-	13	-	500	7	1.40	
Total (A)	2000	1432	71.60	915	45.75	590	96	16.27	1665	386	23.18	3060	48	1.57	
Total (B)		8033		1656			1064			1427			413		
No. of Districts (a)		7		7			6			4			4		
No. of Districts (b)		38		31			51			20			25		

Note: (A) No. of minikits allocated to and No. of feedback cards received from the sampled districts.

(B) No. of feedback cards received from different districts (including sampled districts) of the Kingdom.

(a) No. of sampled districts wherefrom feedback card were received.

(b) No. of total districts (including sampled districts) wherefrom feedback cards were received.

3.2.1 Response on Feedback Cards from Different Quarters:

An attempt was made to obtain information regarding the response on feedback cards in the course of the interviews with three Crop Coordinators, four RDs, eight ADOs, 91 JT/JTAs and 612 farmers receiving minikits.

The two Crop Coordinators (of NMDP and NWDP) when asked to give achieved response on feedback cards in percentage put receipts at 30-40 and 7-10 per cent respectively. So far as their opinion about the response for less than 50 per cent is concerned the former opined in a negative way because of no study made in this connection while the latter opined that the lack of education among farmers, interest of JT/JTAs and awareness of ADOs in filling cards and poor postal services are the possible causes of low response on the feedback cards. The minikit evaluation team is ignorant whether the feedback card is included in the soyabean minikit. If the soyabean minikits really do not contain feedback cards, then it is definitely a matter of surprise that the National Pulse Crops Development Programme (NPDP) coordinator has put the response on feedback cards at 25-30 per cent and confessed that the low response was due to the lack of adequate follow-up programme resulted by the lack of extension officials in the programme he belongs to. None of the three Crop Coordinators interviewed took the trouble of analyzing the feedback cards they received except the coordinator of the NMDP. The Coordinator of NPDP was not available for interview during the field survey period.

None of the four RDs interviewed could throw some light on the possible levels of low response on feedback cards and suggest the way to improve the response on it.

Four questions regarding the feedback cards asked with the ADOs of the sampled districts were: (a) who is responsible to fill the cards ?, (b) Did you return all the cards to the respective Crop Programmes ?, (c) Is feedback card system a proper way of getting regular information on minikits ?, and (d) How could the number of cards reaching the crop programme be improved ? According to the three ADOs, farmers themselves are responsible for filling up the cards, while farmers with the help of JT/JTAs; ADOs themselves; and farmers and ADOs jointly are the responsible persons to fill up the cards according to three; one; and another one ADO respectively. Cards that reached the Agriculture Development Offices were returned according to six ADOs and according to two ADOs cards were not returned because they were lost and damaged by the farmers, minikits arrived late and JT/JTAs could not reach the farmers to collect them. Six ADOs opined that the feedback card system is a proper way of getting regular information on minikits. One ADO opined that proper information on minikits cannot be obtained from the cards filled up by the farmers and one ADO very frankly admitted that he had no idea about it. Four ADOs suggested that the number of cards reaching the crop programmes can be increased by activising JT/JTAs in collecting the cards from the farmers and thereafter posting them. One ADO suggested that the farmers should be made aware of the significance of the cards and compelled to fill them

properly with or without the help of JT/JTAs and return them. It seemed that three ADOs did not know what the questions connoted. There exists no evidence that any coordinator has taken follow-up activities nor has been found issuing any instruction to ADOs. Many JT/JTAs and even ADOs seemed not knowing the feedback card component of minikit and seeing it. What a surprising matter it actually is that the person through whom minikits go in the hands of farmers does not know about this component of minikit.

Out of 91 JT/JTAs interviewed in eight sampled districts (not less than five and not more than 20 in a district), 70 JT/JTAs (76.92 per cent) said that feedback cards are filled by farmers and 21 JT/JTAs (23.08 per cent) were found filling the cards instead of farmers.

A total of 612 farmers receiving minikits were interviewed in eight sampled districts. Annex 2, Appendix 1, Table 4a reveals that out of 221 minikit farmers interviewed in four sampled hill districts, the number of farmers who filled the cards with and without the help of JT/JTAs was 101 (46 per cent) and 113 (51 per cent) respectively and seven of 25 rice minikit farmers interviewed in Tanahun could not give a solid answer in this respect. 153 farmers (69 per cent) returned the filled cards back to the crop programmes whereas 57 farmers (26 per cent) did not. Seven rice minikit, and four maize minikit farmers interviewed in Tanahun could not remember whether they returned the cards back or not. Annex 2, Appendix 1, Table 4b, on the other hand, depicts

that out of 365 minikit farmers excluding 26 soyabean minikit farmers in Chitawan, interviewed in four sampled Terai districts, the number of farmers who filled the cards with and without the help of JT/JTAs was 227 (62 per cent) and 89 (24 per cent) respectively. Two rice minikit, six maize minikit and 41 wheat minikit farmers in Nawalparasi were found unable to answer whether they had taken the help of JT/JTAs in filling the cards. Similarly, 223 farmers (61 per cent) told the interviewers that they had returned the cards and 47 farmers (13 per cent) had not, since farmers were not made aware of the significance of the cards.

3.2.2 Arrangement of Information Dervied from the Feedback Cards Received from the Sampled Districts:

Information derived from the feedback cards received by the three Crop Programmes, namely, NRDP, NMDP and NWDP, from the eight sampled districts under the rice minikit programme of 1979/80, the maize minikit programme of 1979/80 and the wheat minikit programme of 1978/79 and 1979/80, are well arranged in Annex 2, Appendix 1, Table 5 through 13.

Annex 2, Appendix 1, Table 5 shows the ranges of the dates of seed receipt, seedbed preparation and transplanting and the number of farmers reporting in the first cards they filled, and the provision of irrigation facilities they made available to their hungry minikit plots.

Annex 2, Appendix 1, Table 6 is concerned with the information derived from the second cards and thus shows the range of harvesting dates, transplanted area and the yields of minikit rice variety(ies) distributed. Annex 2, Appendix 1, Table 7 gives the number of farmers who found the minikit rice variety(ies) good or bad as well as the number of farmers who remained silent in this connection. Annex 2, Appendix 1, Table 8a and 8b shows the percentage of farmers (who found the variety/varieties good) placing values to three varietal characteristics, namely, yield, early maturity and quality of rice.

Annex 2, Appendix 1, Table 9 gives the summarised picture of average yields of minikit maize variety(ies) in six of the sampled districts. Annex 2, Appendix 1, Table 10 depicts the number of farmers and how they reacted on the minikit maize variety(ies) they grew on their plots, and Annex 2, Appendix 1, Table 11 gives the number of farmers planting the minikit variety(ies) and their positive reactions on various varietal characteristics.

Annex 2, Appendix 1, Table 12 and 13 shows how the farmers (both mentioning and not mentioning the names of minikit wheat varieties which they received) reacted on the minikit wheat varieties distributed under the wheat minikit programme of 1978/79 and 1979/80 respectively.

The feedback card is a source of information to the Crop Programmes. In the context of evaluation of minikit performance in rice, maize, wheat and soyabean, the evaluation of the feedback cards received by the crop programmes occupies an important place since they enable

them to obtain the farmers' reactions on new and high yielding varieties of crops distributed free of cost among a large number of farmers. The feedback cards distributed along with the minikits of rice, maize and wheat are supposed to bear various information regarding some aspects of delivery system, varietal characteristics for acceptance and rejection by farmers, performance of varieties of crops, suitability of improved high yielding varieties of crops included in the minikits to the existing cropping pattern, and varietal adaptation and adoption that are highly important in planning future seed production programmes.

The information content of rice minikit feedback cards differs somewhat from the maize and wheat minikit feedback cards. Not all soughtafter information are made available by the farmers through the cards received by the Crop Programmes.

The sampled district-wise as well as crop-wise allocation of minikits and the number of feedback cards returned shown in the Table 3 mentioned earlier reveals that there is much to be done on the parts of different tiers involved in the Minikit Programme especially Crop Programmes, ADOs and JT/JTAs to increase the number of feedback cards reaching the Crop Programmes. Not only the percentage of the feedback cards returned as compared to their number distributed along with the kits is low, the information supplied by farmers is also incomplete. Incomplete in the sense that farmers seemed reluctant and hesitant in providing information asked of them. They are made so because they cannot quantify their yields in

Kilogrammes or if they can do so do not want to disclose the exact quantity of the yields they produced. Since the farmers are not aware or made aware of the significance of the cards, they seemed to fill the cards randomly and carelessly and thus giving incomplete information.

Many farmers have been found losing and/or damaging the cards and even keeping them at one place instead of filling and returning them back to the respective Crop Programmes. Many illiterate farmers cannot fill the cards themselves without the help of others and in most cases it has been found that they can hardly get the help of JT/JTAs in this respect. It is also found that one farmer has filled many cards because he was able or was made able to get more than one minikit of a crop than actually entitled to get, and thus leading to the defeat of the objective of distributing one kit to one farmer. Several cards with identical writing and with the same ink were found returned from many districts. Farmers have been found not answering majority of the questions asked, especially in rice and wheat minikit feedback cards.

The feedback card system is supposed to be a proper way of getting regular information on minikits. It is farmers who have to answer the questions not the Crop Programme staffs. So the questions should be as simple and short as possible and easily understandable to the farmers. Questions which render confusion to the farmers should be avoided as far as possible and unnecessarily more questions should not be asked with the farmers.

Very few farmers remember and give the dates of seed receipt, seedbed preparation, transplanting, ear-head initiation and harvesting. Farmers do not know the metric system of measurement and cannot be expected to quantify their yields in kilogrammes. Both of the cards included in a rice minikit seek the transplanted area and the name of the varieties received or transplanted. It has also been noticed that a farmer returning the first card has not returned the second card and vice versa. It may lead to a better response on rice minikit feedback cards if their number like in maize and wheat minikit is lowered to one and that too containing relevant questions in simple and easily understandable way.

On the other hand, it is really a matter of surprise that few wheat minikit feedback cards do not ask the farmers the name of the variety(ies) they received. Farmers getting such cards along with the minikits may hardly be expected to correct the mistake of the Crop Programme by kindly mentioning the name(s) of the variety(ies) they got. Other information without variety name furnished through such cards become of no use.

Extension workers involved in the Minikit Programme have not been that much able to create awareness among farmers regarding the significance of the cards and answers or information they furnish to Crop Programmes through the cards. No alternate way is there in the kit to remind the farmers of the feedback card which he has to fill after transplanting and/or harvesting the crops as the case may be, and post it. Some sort of alternate way has to be devised to remind the farmers of the cards if unfortunately

ADOs and/or JT/JTAs forget to remind this thing at the time of delivery of minikits to the farmers. Modification of particularly rice and wheat minikit feedback cards with different simple questions not causing confusion to the farmers is a must to know more about their reactions for the variety(ies).

Just by distributing feedback cards along with the minikits to the farmers, the desired result cannot be obtained. The minikit programme needs constant involvement of extension workers to deliver benefits at the door of poor farmers and coordinated and concerted efforts of all concerned. The success of the Minikit Programme - a very effective and dynamic extension approach to prevent delay in the extension process and speed up the spread of the new varieties of crops by making available seed of released and prereleased high yielding varieties of rice, maize, wheat, soyabean and other crop accompanied by improved technologies to a large number of farmers - depends to a large extent upon the assigned role performed by the extension agents. All the efforts will be of no avail if they do not or are not made to feel their responsibilities of supervision and management.

Marked impact on disseminating and popularising new high yielding varieties of crops can be achieved only when they consider the Minikit Programme as an aid to their usual programmes, rather than considering it as an extra burden. Since minikits may be an effective tool in pushing anything which we think for sure is good for farmers, JT/JTAs while distributing kits to the enthusiastic farmers

of their village panchayats should make farmers aware of the feedback cards which have to be filled and returned after the transplanting of the seed and/or harvesting the crops as the case may be. Help of JT/JTAs in filling the cards counts much since many farmers cannot read and write. So many farmers need and seek the help of JT/JTAs in filling the cards. JT/JTAs besides visiting minikit plots of their areas should also help the farmers in filling the cards or even fill the cards instead of farmers.

Farmers also should not destroy the cards and should take proper care of them. After filling the cards they should either post them or if it is not possible give them to the JT/JTAs to be posted. If possible, JT/JTAs should collect the cards from the farmers to whom they distributed the kits and should be made to shoulder the responsibility of posting the cards given by farmers or collected from the farmers or fetch all such cards to the Agriculture Development Offices to be posted by the latter.

The function of the Crop Programmes should not end with the allocation of minikits to be distributed in different districts and of the RDA with the dispatch of kits to the Agriculture Development Offices to be distributed directly or through JT/JTAs among a large number of farmers. Follow up activities from all sides are essential. It may be mentioned here that most of the interviewed farmers had no knowledge of the visit by the monitoring teams of the Crop Programmes.

The Minikit Outreach Programme is markedly contributing to improving awareness among farmers regarding the new varieties of crops and better management techniques as well as exposing researchers to varietal performance, management and pest control problems under farmers' field conditions. Communication among the Crop Programmes, Regional Directorates of Agriculture, Agriculture Development Offices, JT/JTAs should be open and on a two-way channel. Supervision and management of the minikits which is the responsibility of the extension workers and technicians should be intensified to obtain better results. Increased farmers' awareness is no less important in this respect. Only when all the mechanics of the approach are in place and well orchestrated, can we be assured of the full success of the Minikit Programme.

3.3 Understanding of Minikit Objectives

The objective of Minikit Programme is very obvious and is said "to help increase production by quick dissemination of improved crop varieties and the component technologies from research to farmers' fields and also provide enough choice to farmers to select suitable varieties for their existing situations and needs". Some other further state the objective as an evaluation of the selected varieties and technologies and to maintain a feedback system for researchers and extension.

So far as the information available from this study it appears that the Minikit Programme is a joint responsibility of the Commodity Programmes, RDs of Agriculture and the Agriculture Development Offices.

Hence, all these organizations have vital roles to play in making the Programme success. Poor understanding about the Programme even at one level in the chain may lead to either partial success or even to the failure of the Programme. All the concerned levels have their different roles and responsibilities to discharge in the previewed direction. It is, therefore, really important for them to perceive the objectives of the Programme and their respective area of responsibilities in a right manner. The very objectives of the Programme and the area of responsibilities perceived by the authorities engaged in the Minikit Programme explored through interviews are shown in Annex 2, Appendix 1, Table 14a - 14d, and Annex 2, Appendix 1, Tables 15a - 15d.

Looking at the Annex 2, Appendix 1, Table 14a - 14d, one can see quite appreciable differences of understandings among the authorities about the Programme objectives. It seems that not much attention has been paid to understand or make understand the spirit of the Programme in the direction of purposeful execution. The Programme objectives appear somewhat understood at the level of RDs of Agriculture. Majority of ADOs seemed to have scanty idea of the Programme objectives and appeared to find themselves perhaps confined only with mechanical works, that is, receiving minikits and distributing them among the interested farmers and just hoping for its success. In such a way, the Programme seems to be conducted in much the same way as an extensionist conducts result demonstration ritually at present.

However, because of some of the virtues of the minikit programme, it seems to have an effective pace. The Minikit Programme definitely could have been taken as one of the tools of extension to fulfil the objectives laid down before and even at the Parwanipur Workshop in 1980 (Annex 2, Appendix 2). A period of three to four years is, of course, quite enough for any such Programme to show some appreciable impact on yield and adaptation of accompanied technologies.

The JT/JTAs and the ADOs are the front row personnel to execute the Programme and to make it a success in the anticipated direction. But unfortunately, none of 91 JT/JTAs interviewed in eight sampled districts, seems to understand the Programme objectives in the right manner. Their more common perception about objectives is given in Annex 2, Appendix 1, Table 14a. Some of their perceiptions are of relevance, otherwise most of them have stated in a very irrelevant manner in that the Minikit Programme is a programme introduced by the ICP; it is a programme to attract farmers; it is a programme for distributing seeds, fertilizer and pesticides at free of cost; it is a programme to fulfill the demand for seeds and so on. Not only JT/JTAs have such vague ideas of the objectives, but some of the ADOs also have stated the Programme Objectives to be as follows: it is a programme to enable the farmers to store seed for consumption; it is a programme to get information about releasing varieties of crops; it is a programme to tell the farmers all technical knowledge whatever research has developed; and it is a programme for the varietal test in the farmers' fields etc. (Annex 2, Appendix 1, Table 14b).

It appears nothing but simply a lack of communication in the beginning of the programme and also during the implementation period. It tends, therefore, to reveal the lack of seriousness towards the programme at higher level than lower. It necessarily demands a self evaluation of the Programme every year at all levels and the results in return must have been discussed among them, since all extension programmes need to be evaluated periodically and discussed thoroughly to bring necessary improvements.

The respective roles and responsibilities (Annex 2, Appendix 1, Tables 15a - 15d) being stated by all authorities and personnel of different tiers seem almost in right direction as previewed. However, these appeared to be philosophical in true sense which will be supported by the following paragraphs.

The ADOs are the right persons to discharge all the agriculture extension services and to manage overall programme of agriculture in the districts. It is important to note in this connection that none of the eight ADOs interviewed was able to furnish the number of minikits demanded for any season during 1977/78 to 1979/80. All of them seemed inclined to say unanimously that the Minikit Programme being the Programme of the Coordinators they were to decide the number, kind, and time of dispatch of minikits. This shows a serious communication gap. But, on the other hand, all coordinator respondents have reported that the number of minikits for the individual district has been decided after consultation with the RDs. It means this very practice of fixing the number of minikits has either

been started later or RDs might have not communicated to the respective districts about what they had decided with the Coordinators. Former seems more correct and the practice of fixing the size of minikits for the individual districts has been started after the year 1980, not during the period which has been considered for evaluation purpose. This is supported by the paper presented by IADS on 7th October 1980 at the Parwanipur Workshop (Annex 2, Appendix 2).

An official enquiry regarding scope of involvement of RD i.e. responsibility of RD, in launching the Minikit Programme, was made with four RDs. The response made by only one RD in this regard runs as follows:

(a) "I think the RD does not have any specific involvement in the launching of Minikit Programme. We are mainly concerned with extension. So, we just help different Crop Development Programmes in disseminating information about new technology and new materials to the farmers.

(b) Actually, it does not fall under annual Regional programme. Different Crop Development Programmes formulate their Minikit Programmes, sometimes in consultation with us.

Letters demanding some basic information about minikit was also sent to the four Crop Coordinators. But only one Coordinator was kind enough to furnish the information partially not fulfilling the purpose.

3.4 Awareness Created by the Minikit Programme

A total of 612 minikit farmers (170 rice minikit farmers, 225 maize minikit farmers, 191 wheat minikit farmers and 26 soyabean minikit farmers) were interviewed in eight sampled districts and a total of 4271 minikits (981 rice minikits, 1398 maize minikits, 1764 wheat minikits and 128 soyabean minikits) were distributed there during 1977/78 - 1979/80 period (Table 6).

Considerably very high percentage of these farmers have stated their acquaintance with new varieties of crops through Minikit Programme (Annex 2, Appendix 1, Table 16). Only a small number of these farmers appear to know about the improved varieties of crops before the introduction of the Minikit Programme by some other means. This tends to indicate that the Minikit Programme has really included a large number of new farmers who have not been served through the regular extension programme. It is but natural since the Agriculture Development Offices have limited means through result demonstrations to accommodate such a large number of farmers as Minikit Programme could do every year.

Interviews with non-minikit farmers and key informants have shown that many of them are interested to receive minikits of all crops in future (Annex 2, Appendix 1, Table 17). Reasons for such inclination have been further supported by their information on higher output of minikit crop varieties, seed dissemination and the success of the Programme (Annex 2, Appendix 1, Table 18).

Table 6

No. of Minikit Receiving Farmers Interviewed and No. of Minikits Distributed During 1977/78 - 1979/80 Period

(Sampled District-wise and Crop-wise)

Districts	Rice		Maize		Wheat		Soyabean		Grand Total	
	A	B	A	B	A	B	A	B	A	B
Doti	21	42	21	73	8	135	-	-	50	250
Tanahun	25	23	28	93	-	-	-	-	53	116
Ramechhap	22	175	25	243	-	-	-	-	47	418
Ilam	11	19	60	512	-	-	-	-	71	531
Total (Hills)	79	259	134	921	8	135	-	-	221	1315
Sunsari	31	243	30	102	32	214	-	-	93	559
Chitawan	29	274	20	21	26	261	26	128	101	684
Nawalparasi	19	121	20	158	117	1134	-	-	156	1413
Kailali	12	84	21	196	8	20	-	-	41	300
Total (Terai)	91	722	91	477	183	1629	26	128	391	2956
GRAND TOTAL	170	981	225	1398	191	1764	26	128	612	4271

Note: A = No. of minikit receiving farmers interviewed.

B = No. of minikits distributed during 1977/78 - 1979/80 period.

Not only the farmers (participant and non-participant) but JT/JTAs, ADOs, and RDs have shown their concern that by one reason or another the Minikit Programme has created sufficient amount of awareness among the farmers about high yielding varieties and quality seed. Quality seed might perhaps be one of the reasons that 68 per cent of interviewed rice minikit farmers, 49 per cent of wheat minikit farmers, 84 per cent of maize minikit farmers and 75 per cent of soyabean minikit farmers showed interest in growing minikit varieties of crops next year and preferred Agriculture Development Offices as the source of seeds (Table 7).

Table 7

Minikit Farmers' Interest in Growing Crop Varieties and Their Sources of Seeds

(Eight Sampled Districts)

Crop	No. of Minikit Farmers Interviewed	Number of Interviewed Farmers				
		Interested in Growing Minikit Crop Varieties	Source of Seed			
			ADO	Sajha	Own	Neighbours
Rice	179	139 (82)	95 (68)	51 (37)	81 (58)	15 (11)
Maize	225	204 (91)	171 (84)	38 (19)	94 (46)	34 (17)
Wheat	191	181 (95)	89 (49)	84 (46)	117 (65)	12 (7)
Soyabean	26	20 (77)	15 (75)	- -	6 (30)	5 (25)
Total	612	544 (89)	370 (68)	173 (32)	298 (55)	66 (12)

Bracketed figures indicate percentages.

Annex 2, Appendix 1, Table 19a and 19b provides further details regarding the number of such farmers crop-wise and sampled district-wise. But, on the other hand, we cannot undermine the possibility that the farmers rely upon ADOs for the seed and consider ADOs to be the free source of high quality seeds. However, whatever may be the reasons, this gives a further guidance for RDs and ADOs, who are directly involved in macro-level planning of the seed production campaign after a certain verification of the authenticity of varietal adoption in the potential pockets and even in larger area if possible.

3.5 Reaction on the Minikit Programme from Different Quarters

The traditional extension methodology in the spread of new varieties of crops is to grow them in a demonstration plot in the land of more progressive farmers and exhibit the yield potential to them. Since limited quantity of seed would go to selected farmers, not enough sampling can be done to get a rapid and rational evaluation of the potential of a new variety in relation to a specific location. In most cases, reactions of farmers on a variety is difficult to secure at the earliest possible time to be of use in evaluating the variety. This whole chain of events delays the extension process and the profitable exploitation of new technology.

The minikit seems very effective in disseminating new varieties of crops and accompanied technologies to the interior places where the extension service has not reached effectively. Quite a large number of farmers appeared ready to participate in this technology adoption process in contrast to the result demonstration approach in extension.

The opinion regarding the Minikit Programme, its success and failure, whether it should be continued or not in the future, and on the other aspects were collected by interviewing personnel at different quarters, who are involved directly or indirectly in the Programme. All groups of respondents feel that the Programme is good and successful.

Two out of three Coordinator respondents have admitted that the Programme is a success. One said that it was very early for him to comment on the Programme. But they all believe that the Programme is very effective in general and consider it to be a very efficient means of new variety and technology transfer at a faster rate although they gave no concrete proof to support their individual feelings. One of the papers presented at the 7th Winter Crops Workshop organised by the NWDP in 1979 stated "this is the only programme which delivers benefit at the door of the poor farmers". It is perhaps based upon their scanty observations. All the three Coordinators interviewed have shown a firm belief on the need of the continuation of this Programme in future, but none of them replied the question, "How long further this Programme should be continued in future ?"

Two out of three RD respondents consider Minikit programme is a success but none of them gave any reason to support his idea. However, all the RD respondents assume that the area under minikit varieties has increased and 67 per cent respondents believed production had been boosted up due to minikit varieties though they were unable to

quantify the rate of increase in the production and area due to minikit. It is true since their present reporting system does not find place for such information monitoring.

Almost all ADO respondents (88 per cent) have considered the Programme to be a success on the basis of their experiences and have found minikit crop varieties yielding more and the area under cultivation of them increasing. All of them suggested the continuation of the Minikit Programme in future.

Most of the ADO respondents have put forward some logical explanations which are worthy of consideration. They run as follows:

(a) We had to depend at earlier stages on the Agricultural Inputs Corporation for seeds (quality of which was not always assured) for such important and effective extension tool, that is, the result demonstration. Unless the variety(ies) was/were used to get wide popularity, it/they did not get chance to be included into AIC distribution channel to be served country-wide and consequently ADOs were deprived of newly identified promising varieties of crop to include in result demonstrations. Now through this minikit channel of seed dissemination, we are in better position to have an easy access to those promising new varieties. The responsibility of finding out suitable varieties through long channel like concerned department then to the stations and farms, has been shifted from our shoulders to coordinators.

(b) For our result demonstration we had to take lot of pains to get new technology from the stations and farms since they were not in fact very much responsive to us in providing materials earlier and were also not confident about what to give and for where. Consequently, the result demonstration, in fact, the most effective methodology as a group contact media in Nepal, became less effective due to the reluctance on the part of stations and farms. We started depending on AIC seed which was often of inferior quality. This resulted in loss of confidence of farmers and in our best extension methodology and the result demonstration became ritual just to fulfil the target.

The seriousness of the ADOs' interest in the Minikit Programme may be reflected from their visits to the minikit plots. 100 per cent of the ADOs interviewed reported that they have visited the plots 2-4 times during the crop period. It is also being further supported that 64 per cent of the farmers interviewed in eight sampled districts have reported that JT/JTAs had visited their minikit plots at least once and at most five times but more commonly 1-3 times. Twenty one per cent of the farmers (receiving minikits) interviewed have stated that the ADOs of their respective districts have visited their minikit plots. The number of farmers (crop-wise) reporting the visits made to their minikit plots by the JT/JTAs and the ADOs is shown in the Table 8 given below.

Table 8

Farmers' Response on Visits Made to Their Minikit Plots by JT/JTAs and ADOs

Crops	No. of Farmers Interviewed	Numbers of Visits by JT/JTAs						Visits by ADOs	
		1	2	3	4	More than 5	No Visit	Visit	No Visit
Rice	170	29	44	28	10	7	52	37	133
Maize	225	45	41	19	10	6	104	31	194
Wheat	191	32	39	28	10	21	61	56	135
Soyabean	26	10	5	5	-	-	6	4	22
Total	612	116	129	80	30	34	225	128	484
Percentage	100	19	21	13	5	6	36	21	79

Like Crop Coordinators, RD and ADO respondents, all JT/JTAs, minikit farmers, non-minikit farmers as well as key farmers interviewed seem to stamp the level of success to the Minikit Programme. Table 9 indicates that of the JT/JTAs interviewed the performance of minikit was worthwhile in rice according to 86 per cent, in maize according to 97 per cent, and in wheat according to 86 per cent in five out of eight sampled districts; and in soyabean according to 95 per cent of JT/JTAs interviewed in Chitawan district only (see Annex 2, Appendix 1, Tables 20a and 20b for sampled district-wise number of JT/JTAs' response on minikit performance in rice maize and soyabean).

Table 9

JT/JTAs' Response on Performance of Minikits

(Eight Sampled Districts)

Crops	Number of JT/JTAs*			
	Level of Minikit Performance			
	Very Good	Good	Total	Bad
Rice	18 (20)	60 (66)	78 (86)	13 (14)
Maize	29 (32)	59 (65)	88 (97)	3 (3)
Wheat	20 (32)	34 (54)	54 (86)	9 (14)
Soyabean	7 (35)	12 (60)	19 (95)	1 (5)
All crops	74 (28)	165 (62)	239 (90)	26 (10)

Bracketed figures indicate percentages.

* No. of JT/JTA respondents - 91.

The main reasons JT/JTAs considered the programme to be a success were higher output, good taste, suitability of minikit crop variety(ies) to existing cropping pattern, disease resistance, whereas failure, only 3 to 14 per cent, attributed to poor germination of minikit seed, occurrence of diseases, requirement of more chemical fertiliser which is not available in time, sudden arrival of minikits without any prior information, often late arrival of minikits causing the problem in distributing them in

right manner, no proper guidance and supervision from the Crop Programmes as well as admixture of seeds in rice minikits in initial year.

Table 10 given below on farmers' evaluation of minikits reveals that according to 76 per cent of rice farmers, 84 per cent of maize farmers, 68 per cent of wheat farmers and 77 per cent of the soyabean farmers interviewed in sampled districts, the Minikit Programme is a success in their area (see Annex 2, Appendix 1, Tables 21a and 21b for sampled district-wise and crop-wise number of minikit farmers reacting on the success or failure of the Programme in their area).

Table 10

Farmers' Response on the Success or Failure of the Minikit Programme in Their Panchayats

(Eight Sampled Districts)

Crops	No. of Minikit Farmers Interviewed	Programme in the Panchayat (No. of Farmers)		
		Success	Failure	No response
Rice	170	129 (76)	38 (22)	3 (2)
Maize	225	190 (84)	21 (9)	14 (6)
Wheat	191	130 (68)	60 (31)	1 (1)
Soyabean	26	20 (77)	6 (23)	- -
All Crops	612 (100)	469 (77)	125 (20)	18 (3)

Bracketed figures indicate percentages.

Similarly, 81 per cent of 106 key-informants interviewed in all sampled village panchayats of the eight sampled districts, when asked to react upon the success or failure of the Programme, said that it was successful in their area. Likewise, 87 per cent of 61 non-minikit farmers interviewed have observed that the programme was successful in their area (Annex 2, Appendix 1, Table 18).

Taking the reactions on the programme from all sectors into account, we may consider the programme to be a genuine approach on account of JT/JTAs being the front line workers in the field, minikit farmers directly involved in using minikit component technology, and non-minikit farmers as well as key farmers both being the closest observers of the Programme and having very positive feeling regarding the Minikit Programme (Annex 2, Appendix 1, Table 18).

3.6 Minikit Programme Information to the Farmers

The Minikit Programme seems to have been designed by thorough analysis of the national need in the field of agriculture to provide a mechanism which can offer the farmers the new technologies in quickest possible time. A key component of the Minikit Programme is information to farmers at a large scale. This information include variety description, cultural practices to use as well as the use of other needed inputs. In connection with carrying the information to the farmer, ADO seems to have done a commendable job on his part, which is clearly shown by the fact that among the minikit farmer respondents (612) 86 per cent knew about the Minikit Programme only from the Agriculture Development Offices (Table 11).

Table 11

Source of Knowledge About Minikit Programme to Minikit Farmers

Districts	No. of Minikit Farmers Interviewed	Source of Knowledge About Minikit Programme			
		Agricultural		Non-Agricultural	
		No. of Farmers	%	No. of Farmers	%
Doti	50	50	100	-	-
Tanahun	53	47	89	6	11
Ramechhap	47	42	89	5	11
Ilam	71	62	87	9	13
Sunsari	93	90	97	3	3
Nawalparasi	156	105	67	51	33
Chitawan	101	95	94	6	6
Kailali	41	37	90	4	10
Total	612	528	86	84	14

It means that the Agriculture Development Offices have made an arduous effort to have a contact with individual farmer before carrying minikits to him, letting the farmers first know about the Minikit Programme and then receive the minikits for growing them in their lands.

The Minikit Programme by itself has been a source of information and its usefulness can be exemplified by the following paragraphs.

The farmers interviewed in sampled Hill and Terai districts for the purpose have reported, in majority, that they applied the recommended technologies, such as, chemical

fertilizer, farm yard manure, insecticides while growing minikit crop varieties as per the instructions given in the booklet contained in the minikit (Annex 2, Appendix 1, Tables 28a and 28b).

There is, however, a big difference between Hill and Terai farmers in practising the given instructions. The Terai farmers outnumbered those of Hills in following the instruction component of minikit irrespective of crops (Annex 2, Appendix 1, Tables 29a and 29b).

The farmers interviewed both in the sampled Hill and Terai districts have reported that the varieties included in the minikits they received suited to their existing cropping patterns. However, the farmers interviewed in Nawalparasi have indicated the varieties generally did not fit irrespective of crops (Annex 2, Appendix 1, Tables 28a and 28b).

3.7 Impact of Minikit in the Panchayat and the Neighbouring Panchayats

An increase in food production with the minikit crop varieties is normally expected if the minimal essential conditions for the fullest expression of potential of varieties, such as, the use of recommended technologies for varieties, their suitability to the farmers' existing cropping pattern, quality of seed supplied, seed selection of the adopted varieties for the following years, are met.

The Minikit Programme has had an impact according to a large percentage of the participant farmers in their respective areas. On an average, 66 per cent of rice

farmers, 80 per cent of maize farmers and all wheat farmers interviewed in the sampled Hill districts (Annex 2, Appendix 1, Table 21a); and 85 per cent of rice farmers, 90 per cent of maize farmers, 67 per cent of wheat farmers, and 77 per cent of soyabean farmers interviewed in the sampled Terai districts (Annex 2, Appendix 1, Table 21b) have considered the programme had an impact.

Moreover, among the participant farmers of the Hill districts 20 per cent of them in rice, 58 per cent in maize and 63 per cent in wheat have reported the positive impact of the Minikig Programme in their neighbouring panchayats. In the Terai the trikle down effect of Minikit Programme to the neighbouring panchayats was reported to be considerably more in comparision to the hill districts - 77 per cent of the farmers each in rice and soyabean, 76 per cent in maize and 68 per cent in wheat (Annex 2, Appendix 1, Tables 21a and 21b). The reasons for such differences may be manyfold, but more logical and obvious among them is easy transport and communication, clustered houses in the villages facilitating an exchange of information; ready availability of other needed inputs and better market structure.

Farmers' reactions were also sought to regarding the increase in food production due to minikit crop varieties as well as the effect of the Programme on the spread of new and high yielding minikit crop varieties in their panchayats. 92 per cent of rice minikit, 93 per cent of maize minikit, 86 per cent of wheat minikit and cent per cent of soyabean minikit farmers interviewed in the

sampled Terai districts expressed their thought that minikit is a good means to increase food production in their areas. Likewise, 91 per cent of rice minikit, 95 per cent of maize minikit, 88 per cent each of wheat and soyabean minikit farmers were of the opinion that the on-going Minikit Programme has helped in the spread of new varieties of crop in their areas effecting increase in food production.

Similarly, 91 per cent of rice farmers, 96 per cent maize farmers and cent per cent wheat farmers interviewed in the sampled Hill districts considered the Minikit Programme was a good means of increasing food production. According to 81 per cent rice farmers, 96 per cent maize farmers and cent per cent wheat farmers, the Programme also helped in the spread of new varieties of crops (see Annex 2, Appendix 1, Tables 32a and 32b for sampled district-wise and crop-wise number of farmers reacting in this way).

Besides the participant farmers, the majority of the Crop Coordinators, RDs, ADOs, and JT/JTAs along with key farmers and non-minikit farmers, assert that the minikit technologies have been able to show their advantages in their respective areas.

3.8 General Impression of Minikit Crops on Participant Farmers:

Many of the interviewed farmers experienced an increase in yield due to minikit crop varieties. 198 out of 221 minikit farmers (90 per cent) interviewed in four sampled Hill districts reported that minikit crops led to

an increase in yield. Out of the 198 minikit farmers, 22 per cent reported an yield increase of 25 per cent, while the percentages of minikit farmers reporting yield increases of 50 per cent, 75 per cent, 100 per cent and 200 per cent were 21, 4, 46 and 2 respectively (Annex 2, Appendix 1, Table 24a).

In the case of sampled Terai districts, 284 out of 391 minikit farmers (73 per cent) interviewed reported that there was an increase in yield due to minikit crop varieties. Out of 284 minikit farmers, 25 per cent got 25 per cent more yield, while yield increases of 50 per cent, 75 per cent and 100 per cent were experienced by 48 per cent, 9 per cent and 18 per cent of the farmers respectively (Annex 2, Appendix 1, Table 24b).

3.9 Evaluation of Minikit Performances (Crop-wise)

3.9.1 Rice:

In all, 16 recommended and prerelease varieties were found to be used, differing in number as well as varieties themselves from district to district. Each variety was compared with the local variety. The local variety seemed to consist of the traditional local or improved one which had already spread and become treated as almost local in the respective areas. The effect of agroclimatic differences was evident as some varieties fared well over the local in one district, while the same varieties did equal to or worse than the local in another district. However, in majority of the cases, the minikit varieties have tended to show up the yield increase over the local in varying degrees ranging from 8 to 232 per cent (Annex 2, Appendix 1, Table 25a).

80

3.9.2 Maize:

Altogether seven recommended varieties were tried in different districts. All the varieties outyielded the locals in all the sampled districts irrespective of the agroclimatic conditions. The yield increases varied from 7 to 299 per cent (Annex 2, Appendix 1, Table 25b).

3.9.3 Wheat:

The number of varieties distributed was eight. One renowned variety i.e., RR 21 and another variety (NL 30) gave poor performance in yield against the local in Chitawan, the same case being with NL 88 in Nawalparasi. Otherwise, the minikit varieties gave the increased yield range of 1 to 174 per cent in other areas (Annex 2, Appendix 1, Table 25c).

3.9.4 Soyabean:

Chitawan, one of the sampled districts, received 'Hardee' variety of soyabean. This variety gave the average yield of 985 kg/ha, a little more than 100 per cent, against the local variety (Annex 2, Appendix 1, Table 25d).

3.10 Farmers' Interest in Receiving Minikits and Their Willingness to pay for them:

By one cause or another, the Minikit Programme appears to have some really good impression on the participant, non-minikit, and key-farmers. That could be measured by their interest shown in growing minikit varieties of crops and also by the sources wherefrom they

intended to get seed in future years (Annex 2, Appendix 1, Tables 19a and 19b). Quite a large number of non-minikit farmers and key-informants interviewed in the sampled districts, having observed the importance of minikits, have shown their willingness to receive minikits of almost all the crops to be distributed in their area (Table 12 and for details see Annex 3, Appendix 1, Table 17).

A very high percentage of the minikit farmers interviewed in the sample districts have shown their interest in receiving minikits and willingness to pay for them (Annex 2, Appendix 1, Tables 27a and 27b). To exemplify by figures, of farmers receiving minikits, 96 per cent each for rice and soyabean, 97 per cent for maize and 99 per cent for wheat hoped to get minikits and of this group 96 per cent each of wheat and soyabean, 81 per cent of maize, and 87 per cent of rice have shown their readiness to pay for the minikits (see Annex 2, Appendix 1, Tables 26a and 26b for sampled district-wise and crop-wise number of such farmers).

The percentage of farmers interested in receiving minikits was a little higher than the percentage of farmers anticipating yield increase due to minikit crop varieties (Table 12).

However, the percentage of farmers interested in growing minikit crop varieties (Annex 2, Appendix 1, Tables 19a and 19b), percentage of minikit, non-minikit and key farmers interested in receiving minikits, percentage of minikit farmers considering yield increase due to

minikit crop varieties, as well as the percentage of minikit farmers considering the Programme as good are similar in almost all minikit crops (Table 12).

Table 12

Farmers' Interest in Receiving Minikits

Crop	% of Farmers Interested in Receiving Minikits			% of Minikit Farmers Considering	
	Minikit	Non-Minikit	Key Informants	Yield Increase due to Minikit Crop Varieties	Programme as Good
Rice	96	82	87	83	92
Maize	97	82	90	86	95
Wheat	99	87	84	90	100
Soyabean	96	70	50	73	100

The difference between the percentage of the farmers interested in receiving minikits and the farmers considering the yield increase due to minikit crop varieties may be because of several reasons. The participant farmers might have better understood the yield potentiality of the minikit varieties of crops but not achieved the expected yield because of natural calamities, disease and pest outbreak, planting the varieties in the waste land and damage caused by the animals etc.

The Hill farmers who are interested in growing minikit varieties of crops (85 per cent) seem more confident upon Agriculture Development Offices as priority source for seed of all minikit crops. Alternatively 51 per cent preferred to save their own seed of all the commodities except wheat. In maize, 46 per cent of minikit farmers of both Hill and Terai have expressed their willingness to save their own seed in comparison to other crops. Of maize minikit farmers in the Hill and Terai districts, 91 and 90 per cent respectively, have expressed their preference to grow minikit varieties of maize rather than save their own seed (Annex 2, Appendix 1, Tables 19a and 19b). Two possible reasons may be put forth for such differences between the percentages of farmers willing to grow and the percentage of farmers to save the seed of maize. Firstly, the maize minikits have been accompanied with fertilizer and insecticides along with seed as compared to other crop minikits which contain seed only. This might be a point of interest of the farmers to get maize minikits from the Agriculture Development Offices. Secondly, the farmers having known and experienced the possible degeneration of maize seed due to its cross pollinating nature over years might have relied much more on Agriculture Development Offices for quality seed of maize.

Farmers' interest in growing minikit crop varieties and their increasing reliance upon Agriculture Development Offices for seed might be further judged on the basis of their willingness to pay for the minikits that they wish to get in the future. Irrespective of

Hill and Terai, majority of the farmers have expressed their willingness to pay for minikits which they wish to get in the future (Annex 2, Appendix 1, Tables 26a and 26b). By looking at the percentages of farmers willing to pay for the maize minikits both in sampled Hill and Terai districts, the hypothesis that the farmers' interest in receiving maize minikits is due to additional component does not perhaps hold good. However, the possibility that the farmers wish to receive minikits because they are made available to them free of cost cannot be overruled since it has never been tested. We have several instances that farmers go for planting their traditional low yielding varieties but not putting a few more coins to get quality high yielding varieties. Moreover, we very often used to hear a hue and cry of the farmers against higher prices of improved and treated seed and the government, consequently, has subsidized in this respect on the several occasions.

3.11 Effect of Minikit Programme on the Dissemination of Improved Crop Varieties

It has been discussed earlier that the farmers who grew minikit crop varieties and preferred them for one reason or another have shown interest in receiving minikits again. These same farmers have saved seed for the following year and also indicated ADOs as their sources of quality seed.

Quite a large number of minikit farmers have reported keeping seed out of harvest from their minikit plots. On an average 73, 67 and 100 per cent of rice,

maize, and wheat minikit farmers respectively of Hills; 73, 55, 48 and 65 per cent of rice, maize, wheat and soyabean minikit farmers respectively of Terai districts kept seed out of their harvested minikit crops for the next year (Annex 2, Appendix 1, Tables 27a and 27b).

Those farmers who have kept seed for planting next year have also specified the amount of seed that they gave to/bartered with/sold to their interested neighbour farmers and their number (Table 13 below and also see Annex 2, Appendix 1, Tables 27a and 27b for the sampled district-wise and crop-wise details).

Table 13

Effect of Minikits on Spread of Varieties of Crops

(Eight Sampled Districts)

Crop	No. of Farmers Interviewed	Quantity of Seed Kept			Quantity of Seed Given to Others			
		No. of of Farmers	%	Quantity (kg)	No. of of Farmers	%	No. of Neighbour Farmers Receiving Seed	Quantity of Seed Received (kg)
Rice	170	124	73	4031	73	43	340	333
Maize	225	140	62	3758	76	34	571	568
Wheat	191	95	50	1519	50	26	146	146
Soyabean	26	17	65	70	6	23	25	25
Total	612	376	61	9378	205	33	1082	1072
Per Farmer				24.94				0.99

The table above indicates that 73 per cent of rice, 62 per cent of maize, 50 per cent of wheat and 65 per cent of soyabean minikit farmers interviewed in eight sampled districts appeared to have saved seed out of harvest of minikit crop varieties in a considerable amount, that is, 4,031 kg of rice, 3,758 kg of maize, 1,519 kg of wheat and 70 kg of soyabean, which works out to be approximately 25 kg per farmer. Moreover, an appreciable number of neighbours of minikit farmers seemed to have received (approximately 1 kg per farmer) and planted the seed given/bartered with/sold to them by the latter (Annex 2, Appendix 1, Tables 27a and 27b).

Table 14 given below shows the rate of farmer-to-farmer dissemination of seed calculated on the basis of the number of minikit farmers interviewed and the number of neighbour farmers who obtained seeds from the former. It comes to 4.66 for rice, 7.51 for maize, 2.92 for wheat and 4.17 for soyabean.

Table 14

Dissemination Rate of Minikit Crop Varieties

(Eight Sampled Districts)

Crop	No. of Minikit Farmers Who Gave Seed to Others	No. of Neighbourers Who Received Seed	No. of Neighbourers Who Received Seed per Interviewed Minikit Farmer (3)+(2)=(4) Rate of Dissemination
(1)	(2)	(3)	(4)
Rice	73	340	4.66
Maize	76	571	7.51
Wheat	50	146	2.92
Soyabean	6	25	4.17
Total	205	1082	5.28

When we look at the rate of crop-wise seed exchange from minikit farmers to non-minikit farmers at district level, the rate of saving seed by farmer, the rate of spread of minikit crop varieties and the amount of seed given to neighbour farmers, the rate in Tanahun district is very high as compared to other sampled districts. It is because of the fact that some of the rice and maize minikit farmers have got minikits repeatedly year after year. Moreover, by virtue of also being leader farmers, they had been growing improved varieties of crops, received from Gandaki Anchal Agriculture Development Project (GAADP), over and above, the minikit crop varieties. That is why they are planting those improved varieties of crops on the larger area than a minikit can cover.

With the help of rate of farmer-to-farmer dissemination of seed derived on the basis of number of minikit farmers (crop-wise) interviewed in the sampled districts and the number of their neighbourers who received seed (either sold or exchanged) from them, and applying this rate to the 72 districts of the Kingdom covered by the Minikit Programme, an attempt has also been made to estimate the increase in number of farmers growing the crop varieties distributed through minikits (Table 15).

If we suppose that the dissemination of minikit seeds has taken place as observed in Table 15 for the three year period, the Minikit Programme has met its one important objective, i.e., to disseminate the improved varieties of crops among the farmers as quickly as possible.

Table 15

Number of Farmers Using Preferred Minikit Crop Varieties

(by Extrapolating Sampled District Information to All 72 Districts)

Crop	Number of Minikits Distributed in			Rate of Dissemination	No. of Neighbourers Receiving Minikit Seed (by Extrapolation) (4) x (5)	Total No. of Farmers Growing Minikit Crop Varieties (4) + (6)
	55 District Including Sampled Districts	17 Districts (assuming the allocation equals distribution)	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rice	7,539	2,149	9,688	4.66	45,146	54,834
Maize	11,024	3,283	14,307	7.51	107,456	121,763
Wheat	11,343	6,094	17,437	2.92	50,916	68,353
Soyabean	128	–	128	4.17	534	662
Total	30,034	11,526	41,560	5.28	204,052	245,612

3.12 Farmers' Criteria for Judging Seed Quality

Farmer-to-farmer spread of minikit crop varieties depends to a large extent upon their yield performance, which to some extent is determined by the quality of seed. The farmers interviewed in both the sampled Hill and Terai districts were also asked to comment about factors they usually consider while selecting seed. The various factors considered by the farmers while selecting seed were found to be as follows: (a) Uniformity in grains; (b) Disease free grains; (c) Bold, clean and bright grains; and (d) well dried grains.

The percentages of farmers (interviewed in sampled Hill districts) considering uniformity in grain; disease free grains; bold, clean and bright grains; and well dried grains while selecting seed were 88, 92, 81 and 83 respectively whereas they were 80, 70, 78 and 65 respectively in case of farmers interviewed in sampled Terai districts (see Annex 2, Appendix 1, Tables 31a and 31b for sampled district-wise and crop-wise details).

A very negligible percentage of farmers interviewed in Rameckhap and Ansari was found saying that the quality of minikit crop seed they received was bad. On an average, 48 per cent of 821 farmers interviewed in sampled Hill districts and 76 per cent of 391 farmers interviewed in sampled Terai districts said that the minikit seed quality was good (see Annex 2, Appendix 1, Tables 30a and 30b for sampled district-wise and crop-wise details).

To add to plus side of the Minikit Programme, according to 83 per cent of farmers interviewed in the sampled Hill districts and 92 per cent of the farmers interviewed in the sampled Terai districts, the minikit crop seed they planted gave good germination (Annex 2, Appendix 1, Tables 30a and 30b).

PN-ABA-666

Submitted to:

INTERNATIONAL AGRICULTURAL DEVELOPMENT SERVICE

EVALUATION OF MINIKIT PERFORMANCE

(Rice, Maize, Wheat and Soyabean)

Volume II:

ANNEXURE

June 1983

AGRICULTURAL PROJECTS SERVICES CENTRE
Ram Shah Path, Kathmandu
Nepal

EVALUATION OF MINIKIT PERFORMANCE

(Rice, Maize, Wheat and Soyabean)

Volume II:

ANNEXURE

EVALUATION OF MINIKIT PERFORMANCE

(Rice, Maize, Wheat and Soyabean)

Volume II: ANNEXURE

LIST OF ANNEXES

ANNEX 1

Appendix

1. Agricultural Development Bank Branches Established by 1980

2. Agricultural Inputs Corporation (Sampled District-wise Location)

3. Cooperatives Established by 1980 (Sampled District-wise)

ANNEX 2

Appendix 1

Table

1. Number of Minikits Allocated by the Crop Programmes and Number of Minikits Received by the Agricultural Development Offices During 1977/78-1979/80 Period

2. Farmers' Response Regarding the Timely Availability and Condition of Minikits

3. No. of Feedback Cards Received from Different Districts of the Kingdom of Nepal

4. Number of Farmers Helped by JT/JTAs in Filling Feedback Cards and the Number of Farmers who returned Them.

5. Rice Minikit Feedback Card (First Card) Information on Ranges of Dates of Seed Received, Seedbed Preparation and Transplanting and the Provision of Irrigation Facilities

6. Rice Minikit Feedback Card (Second Card) Information on Ranges of Harvesting Dates, Transplanted Area and Yields

Table

7. Rice Minikit Feedback Card (Second Card) Information on the Number of Farmers Finding the Variety Good or Bad

8. Rice Minikit Feed Card (Second Card) Information on Varietal Characteristics

9. Maize Minikit Feedback Card Information on Yields

10. Maize Minikit Feedback Card Information on Varietal Characteristics

11. Maize Minikit Feedback Card Information on Farmers' Positive Reactions (Variety wise)

12. Wheat Minikit Feedback Card Information, 1978/79 (Four Sampled Districts)

13. Wheat Minikit Feedback Card Information, 1979/80 (Four Sampled Districts)

14a. Objectives of Minikit Programme as Perceived by JT/JTA Respondents

14b. Objectives of Minikit Programme as Perceived by ADO Respondents

14c. Objectives of Minikit Programme as Perceived by RD Respondents

14d. Objectives of Minikit Programme as Perceived by Crop Coordinator Respondents

15a. Roles and Responsibilities of JT/JTAs as Understood by JT/JTA Respondents

15b. Roles of ADOs in Launching Minikit Programme as Understood by ADO Respondents

15c. Roles and Responsibilities of RDs in the Minikit Programme as Perceived by RD Respondent

15d. Roles and Responsibilities of Crop Coordinators in the Programme as Perceived by Crop Coordinator Respondents.

Table

16. No. of Minikit Farmers Knowing About Improved Varieties of Crops Before and After the Introduction of Minikit Programme

17. No. of Non-Minikit and Key-Farmers Showing Interest to get Minikits

18. Response of Key and Non-Minikit Farmers (Sampled District-wise)

19. Minikit Farmers' Interest in Growing Minikit Crop Varieties and Their Sources of Seed

20. JT/JTAs' Response on Performance of Minikits and No. of Neighbours of Minikit Farmers Using the Good Minikit Varieties

21. Farmers' Response Regarding the Impact of Minikit Programme in Their and Neighbouring Panchayats

22. Farmers' Response About the Information on Minikit, Source of Minikit and Presence of JT/JTAs at the Planting Time

23. Response of Farmers About the Number of Visits Made to Minikit Plots by JT/JTAs, ADOs, and Other Officials

24. Farmers Response Regarding Yield of Minikit Crop Varieties

25a. Average Yield of Minikit Rice Varieties Against Local

25b. Average Yield of Minikit Maize Varieties Against Local

25c. Average Yields of Minikit Wheat Varieties and Soyabean (Hardee) Against Local

26. Farmers' Interest to Receive and Willingness to Pay for Minikits

27. Number of Farmers Who Kept and Gave Seed to Others and Number of Farmers who Received and Used the Seed and the Quantity of Seed Kept and Given

Table

28. Farmers' Response Regarding the Application of Recommended Technologies, Addition Needed in Minikit and Suitability of Minikit Crop Varieties to Their Existing Cropping Patterns

29. Farmers' Reactions on the Instruction Booklet and the Number of Farmers who Received Training on Minikit

30. Farmers' Reactions on Quality of Seed Content of Minikit and Their Germination

31. Factors Considered While Selecting Good Seed

32. Farmers' Reactions on Minikit Programme as a Good Means to Increase Food Production, and the Spread of New Varieties in Their Panchayats

Appendix

2. Seed Minikit Programme - a paper presented at workshop seminar held at Parwanipur Agriculture Station in October 1980.

3. Specimen of Rice Minikit Feedback Card

4. Specimen of Maize Minikit Feedback Card

5. Specimen of Wheat Minikit Feedback Card

Annex 1
Appendix 1

Agricultural Development Bank
(Branches established by 1980)

District	Location	Bank's Status
Ilam	1. Ilam	Sub-branch
	2. Nayabazar	Depot
Sunsari	1. Inaruwa	Branch
	2. Hari Nagar	Sub-branch
	3. Dharan	Depot
Ramechhap	1. Ramechhap	Sub-branch
Chitawan	1. Bharatpur	Branch
	2. Gunja Nagar	Sub-branch
	3. Upardang Gadhi	Depot
	4. Madhi Kalyanpur	Depot
Tanahun	1. Damauli	Sub-branch
	2. Sepa Bagaincha	Depot
	3. Bhimad	Depot
Nawalparasi	1. Parasi	Branch
	2. Chormara Tandi	Sub-branch
	3. Jamuniya	Sub-branch
	4. Nawalpur	Sub-branch
Doti	1. Doti	Sub-branch
Kailali	1. Dhangadhi	Branch
	2. Hasuliya	Sub-branch
	3. Bhajani	Sub-branch

Annex 1
Appendix 2

Agricultural Inputs Corporation
(Sampled District-wise Location)

District	Location	Status	Class
1. Ilam	Ilam	Branch	C
2. Sunsari	Inaruwa	Branch	C
3. Ramechhap	Ramechhap	Sub-branch	A
4. Chitawan	Bharatpur	Branch	B
5. Tanahun	Damouli	Branch	C
6. Nawalparasi	Parasi	Branch	C
7. Kailali	Dhangadhi	Branch	B
8. Doti	Doti	Branch	C

Co-operatives established by 1980

1. Ilam

	Name	Location	Panchayat Covered
1.1.	Sajha Sanstha Ltd.	Pasupatinagar	Pasupatinagar, Shree Antu Samalbong.
1.2	,,	Nam Saling	Namsaling, Khoyang, Gohrkebazar, Nayabazar.
1.3.	,,	Siddhithumka	Siddhithumka
1.4.	,,	Mangalbare	Chuseni, Sanojung, Sankhejung, Bakum, Jitpur, Sangkhampa.
1.5.	,,	Aaitabare	Kancham, Panchakanya, Laxmipur Goduk, Shantipur, Phikal
1.6.	,,	Barbote	Sumbek, Maipokhari, Puaamjhuw Barbote.
1.7	,,	Kolbung	Irotar, Jimal, Kolbung.
1.8	,,	Aamchok	Aamchok, Phuntsya.

2. Sunsari

2.1	,,	Panchkanya	Panchkanya, Bishnupaduka.
2.2	,,	Sahebgunj	Aanduwa, Amahibela.
2.3	,,	Kaptangunj	Kaptangunj, Dewangunj
2.4	,,	Mahendranagar	Barahachhetra, Mahendranagar.
2.5	,,	Aourawati, Madheli	Madheli, Chandabela Tanmuna, Sisip
2.6	,,	Thumka	Thumka, Bhadgaon, Singaru Pakali, Aaitabare, Sinjiya Bakalouri.
2.7	,,	Hasposa	Hasposa.
2.8	,,	Bhokraha	Bhokraha, Prakashpur.
2.9	,,	Laukahi	Lgukahi, Madhuban, Haripur.
2.10	,,	Bharaul	Bharaul, Kalabazar.
2.11	,,	Duhabi	Duhabi, Kusaha.

2.12	,,	Harinagar	Harinagar, Ramnagar, Bhuraha, Ramganj, Gautampur, Dhuskihat.
2.13	,,	Babiya	Babiya, Lapsingh, Bhawani.
2.14	,,	Inaruwa	Inaruwa, Dumraha, Madhera.
2.15	,,	Chimdi	Chimdi, Ramganj, Belgachhiya, Chhuditaha.
2.16	,,	Itahari	Khamar, Itahari.
2.17	,,	Sonapur	Sonapur.
*2.18	Janahit Sajha Sanstha Ltd.	Jhumka	Bhatgaon, Sinawari, Sirgiya.
*2.19	Adarsha ,,	Inaruwa	Inaruwa, Madhesa, Dumraha.
*2.20	Janakalyan ,,	Magheli	Magheli, Chakhela, Simriya.
3. Ramechhap			
3.1	Sajha Sanstha Ltd.	Bhangeri	Bhangeri, Khalubazar, Sunarpani, Sukajor.
3.2	,,	Khimtivasti	Khimtivasti, Katahare, Navadi.
3.3	,,	Doramba	Doramba, Choprang, Tikapur, Dimipokhari.
3.4	,,	Sanjhutar	Sanjhutar, Deorali, Chilaune Bijalikot.
4. Chitawan			
4.1	,,	Bhandara	Bhandara, Lothar.
4.2	,,	Birendranagar	Birendranagar.
4.3	,,	Padampur	Padampur.
4.4	,,	Sauraha	Sauraha.
4.5	,,	Khairahani	Khairahani, Katthar.
4.6	,,	Pithuwa	Pithuwa, Jutpani, Chainpur.
4.7	,,	Ratnanagar	Ratnanagar, Pachakanya.

---

* Established for Small Farmer Development Programme.

4.8	,,	Narayangadh	Narayangadh, Kapilas, Marchiwar.
4.9	,,	Narayanpur	Narayanpur.
4.10	,,	Mangalpur	Mangalpur.
4.11	,,	Sharadanagar	Sharadanagar.
4.12	,,	Shukranagar	Shukranagar.
4.13	,,	Gunjnagar	Gunjnagar, Dibyanagar.
4.14	,,	Patibani	Patibani, Jagatpur.
4.15	,,	Gitanagar	Gitanagar.
4.16	,,	Shivanagar	Shivanagar.
4.17	,,	Mahendranagar Meghauli	Meghauli.
4.18	,,	Madhi Kalyanpur	Madhikalyanpur, Ayodhyapuri.
4.19	,,	Ichchhakamana, Darechok	Darechok.
4.20	,,	Batakumari Shaktikhor	Shaktikhor. Mhangarhi.
4.21	,,	Someswar, Dhoura	Garada, Dhoura.
4.22	,,	Chandi Phanjyang	Chandibhanjyang.

5. Tanahun

5.1	,,	Satrasaya Anbu	Satrasaya Anbu, Chhimkeswari, Bandipur.
5.2	,,	Sephabagaincha	Bhanu, Tanahunsur, Barbhanjyang
5.3	,,	Bayapani	Phurkot, Murlung, Poopakot, Chisapani.
5.4	,,	Keshavtar	Dharampani, Debghat, Chirpani Chhipchhipe, Keshavtar.
5.5	,,	Damauli	Damauli, Shivapur, Kyamin, Naidi Bhirkot, Chasekuwa, Ramjha.

5.6	,,	Chhang	Manapang, Jamune, Kadedarbar, Ranipokhari.
5.7	,,	Khairenitar	Khaironi Thaprek, Raipur, Thirphire.
5.8	,,	Bhimad	Bhanumati Bhimad, Majhakot, Arunodaya, Min.
5.9	,,	Bhagawatipur	Sundhara, Bhagawatipur, Gajarkot, Ramjakot.

6. Nawalparasi

6.1	,,	Parasi	Aadarsa, Baikuntha.
6.2	,,	Rajahar	Sitwar, Pragatinagar.
6.3	,,	Pratappur	Dupaulia, Jamunia, Pratappur.
6.4	,,	Rakuwa	Rakuwa, Ruchang, Naraynilukaran.
6.5	,,	Chormara	Tamsaria, Munsekot.
6.6	,,	Kawaswati	Pithauli, Rudrapur, Dhobadi, Kawaswati.
6.7	,,	Kudiya	Triveni, Narasahi, Kudiya.
6.8	,,	Aghauli	Aghauli, Kolhuwa.
6.9	,,	Kushma	Kushma, Rampurawa.
6.10	,,	Bolingtar	Bolingtar, Jaubari, Upalo, Aakla.
6.11	,,	Jauharli	Sanai, Palahi, Germi.
6.12	,,	Badeghat	Makar, Jehada.
6.13	,,	Sunawal	Sunawal, Swathi.
6.14	,,	Guthi	Paklihawa, Susta.
6.15	,,	Parauni	Baidoli.
6.15	,,	Mangalchour	Mangalchour, Benimanipur.
6.16	,,	Pusauli	Pusauli, Barhara, Dubaulija.
6.17	,,	Tilakpur	Ramnagar, Tilakpur.
6.18	,,	Beldiha	Gaindakot, Beldiha, Kotghar.
6.19	,,	Bhujahawa	Jagannatpur, Bhujahawa.
6.20	,,	Devsara	Manahi, Devsara.

7. Kailali

7.1 Sajha Sanstha Ltd.	Geta	Godawari, Nikali, Malakheti, Geta.
7.2 ,,	Dhangadhi	Dhangadhi.
7.3 ,,	Sripur	Sripur.
7.4 ,,	Chaumala	Chaumala, Urma.
7.5 ,,	Hasuliya	Hasuliya, Ratanpur.
7.6 ,,	Udasipur	Udasipur.
7.7 ,,	Gadariya	Gadariya, Basoti.
7.8 ,,	Sadapani	Sadapani, Pandon.
7.9 ,,	Bhajani	Bhajani, Khailang, Thadapur.
7.10 ,,	Narayanpur	Narayanpur, Dhanasighapur.
7.11 ,,	Masuriya	Masuriya.
7,12 ,,	Josipur	Baunlya.
7.13 ,,	Baliya	Sugarkhal, Baliya.
7.14 ,,	Tikapur	Tikapur.
7.15 ,,	Munuwa	Munuwa, Dharmapur.
7.16 ,,	Mutha	Chuda, Mudaripur, Mutha.
7.17 ,,	Janakinagar	Janakinagar.

8. Doti

8.1 ,,	Silgadhi	[illegible]enda, Kalena, Dugmindau, [illegible], Tilchakot, Bhekha, [illegible]ada, Ramajaon, Dhumiraja, Kaphalakhi, Mudejaon, Kaphaleswor.
8.2 ,,	Saraswatinagar	Chhahare, Gantechar, Saraswatinagar.
8.3 ,,	Banedugrasen	Singheshwor, Kapleshwor, Kashamandu, Latamandu.
8.4 ,,	Bogtang	Choura, Choubara, Bogtang.

MINIKIT EVALUATION PROJECT

Number of minikits allocated by the crop programmes and number of minikits received by the Agriculture Development Offices during 1977/78 - 1979/80 period

(Eight Sampled Districts)

District	Year	MINIKIT PROGRAMME: RICE Allocation Early	RICE Allocation Normal	RICE Allocation Total	RICE Allocation %	RICE Receipt No	RICE Receipt %	MAIZE Allocation Kharif	MAIZE Allocation Rabi	MAIZE Allocation Total	MAIZE Allocation %	MAIZE Receipt No	MAIZE Receipt %	WHEAT Allocation No.	WHEAT Allocation %	WHEAT Receipt No.	WHEAT Receipt %	SOYABEAN Allocation No.	SOYABEAN Allocation %	SOYABEAN Receipt No.	SOYABEAN Receipt %	GRAND TOTAL Allocation No.	GRAND TOTAL Allocation %	GRAND TOTAL Receipt No.	GRAND TOTAL Receipt %	**
Ilam	1978		50	50				100		100												150				
	1979		50	50				150		150												200				
	1980		50	50				150		150												200				
	Total		150	150	2.97	19	1.94	400		400	24.17	512	36.63									550	4.75	531	12.43	1.11
Ramechhap	1978		50	50				125		125												175				
	1979	50	50	100				100		100												200				
	1980	100	100	200				100		100												300				
	Total	150	200	350	6.93	175	17.84	325		325	19.64	243	17.38									675	5.83	418	9.80	1.37
Tanahun	1978		50	50				100	20	120												170				
	1979	200	100	300				100	10	110												410				
	1980	150	100	250				100		100												350				
	Total	350	250	600	11.88	23	2.34	300	30	330	19.94	93	6.65									930	8.04	116	2.72	1.88
Doti	1978		50	50				75		75												125				
	1979		50	50				40		40				2000								2090				
	1980		100	100				40		40												140				
	Total		200	200	3.96	42	4.28	155		155	9.36	73	5.22	2000	42.37	135	7.65					2355	20.35	250	5.85	4.76
Kailali	1978		100	100				35	30	65												165				
	1979		100	100				30	30	60				20								180				
	1980		100	100				30		30												130				
	Total		300	300	5.94	84	8.56	95	60	155	9.36	196	14.02	20	0.42	20	1.13					475	4.10	300	7.02	6.96
Nawalparasi	1978		200	200					30	30				800								1030				
	1979		200	200				55		55												255				
	1980		200	200																		200				
	Total		600	600	11.88	121	12.33	55	30	85	5.14	153	11.30	800	16.95	1134	64.29					1435	12.83	1413	33.08	3.00
Chitawan	1978	50	500	500					40	40				300								1390				
	1979	400	700	1100					75	75				500				50				1725				
	1980	300	400	700														100				800				
	Total	750	1600	2350	46.53	274	27.93		115	115	6.95	21	1.50	1300	27.54	261	14.80	150	100.00	123	100.00	3915	33.82	684	16.01	7.92
Sunsari	1978		200	200				50	40	90												290				
	1979		100	100										500								600				
	1980		200	200										100								300				
	Total		500	500	9.90	243	24.77	50	40	90	5.44	102	7.30	600	12.72	214	12.13					1190	10.28	559	13.09	2.41
Grand Total(A)		1250	3800	5050	100.00	931	100.00	1330	303	1655	100.00	1398	100.00	4720	100.00	1764	100.00	150	100.00	123	100.00	11575	100.00	4271	100.00	23.41
Percentage				43.63		22.97				14.30		32.73		40.78		41.30		1.29		[illegible]				100.00		
Grand Total(B)				13950						13436				22011								49447				
Percentage				28.21						27.27				44.52								100.00				

** Total minikits allocated to sampled districts a 5% of total minikits allocated to 72 districts (including eight sampled districts).
(A) Allocation to and Receipt of minikits by eight sampled Districts.
(B) Allocation of minikits to 72 districts (including eight sampled Districts).

Annex
Appendix 1
Table

105

MINIKIT EVALUATION PROJECT

Farmers' response regarding the Timely Availability and Condition of Minikits

(Sampled Hill Districts)

Districts	Crop	No. of Farmers Interviewed	Availability of Minikits on Time				Condition of Minikits					
			Yes		No		Good		Bad		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%
Ilam	Rice	11	10	91	1	9	9	82	2	18	-	-
	Maize	60	50	83	10	17	60	100	-	-	-	-
Ramechhap	Rice	22	14	64	8	36	19	86	3	14	-	-
	Maize	25	17	68	8	32	21	84	4	16	-	-
Tanahun	Rice	25	22	88	3	12	23	92	1	4	1	4
	Maize	28	27	96	1	4	28	100	-	-	-	-
Doti	Rice	21	21	100	-	-	21	100	-	-	-	-
	Maize	21	21	100	-	-	21	100	-	-	-	-
	Wheat	8	8	100	-	-	8	100	-	-	-	-
Total	Rice	79	67	85	12	15	72	91	5	6	2	3
	Maize	134	115	86	19	14	130	97	4	3	-	-
	Wheat	8	8	100	-	-	8	100	-	-	-	-
		221	190	86	31	14	210	95	9	4	2	1

Annex 2
Appendix 1
Table - 2a

Annex 2
Appendix 1
Table - 2b

MINIKIT EVALUATION PROJECT

Farmers' response regarding the Timely Availability and Condition of Minikit

(Sampled Tarai Districts)

Districts	Crop	No of Farmers Interviewed	Availability of Minikits on Time				Condition of Minikits					
			Yes		No		Good		Bad		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%
Sunsari	Rice	31	30	97	1	3	29	94	1	3	1	3
	Maize	30	30	100	-	-	28	94	1	3	1	3
	Wheat	32	30	94	2	6	30	94	1	3	1	3
Chitawan	Rice	29	27	93	2	7	29	100	-	-	-	-
	Maize	20	18	90	2	10	20	100	-	-	-	-
	Wheat	26	26	100	-	-	26	100	-	-	-	-
	Soyabean	26	24	92	2	8	26	100	-	-	-	-
Nawalparasi	Rice	19	19	100	-	-	19	100	-	-	-	-
	Maize	20	19	95	1	5	20	100	-	-	-	-
	Wheat	117	113	97	4	3	117	100	-	-	-	-
Kailali	Rice	12	8	67	4	33	6	76	1	12	1	12
	Maize	21	15	71	6	29	16	76	3	14	2	10
	Wheat	8	6	75	2	25	6	76	1	12	1	12
	Rice	91	84	92	7	8	86	95	3	3	2	2
	Maize	91	82	90	9	10	84	93	4	4	3	3
	Wheat	183	175	96	8	4	179	98	2	1	2	1
	Soyabean	26	24	92	2	8	26	100	-	-	-	-
		391	365	93	26	7	375	96	9	2	7	2

No. of Feedback Cards received from different districts of the Kingdom of Nepal

District	No. of Feedback Cards received under Minikit Programme				
	Rice		Maize	Wheat	
	1979/80		1979/80	1978/79	1979/80
	First cards	Second cards			
1	2	3	4	5	6
Ilam	40	10	13	-	-
Ramechhap	85	46	29	-	-
Tanahun	101	63	31	-	-
Doti	-	1	2	-	18
Kailali	78	57	17	11	10
Nawalparasi	197	43	-	218	13
Chitawan	913	695	-	144	-
Sunsari	18	-	4	13	7
Morang	82	14	7	6	4
Udayapur	45	5	12	-	-
Sankhuwasabha	39	5	50	-	-
Dang	49	-	9	-	-
Sarlahi	307	56	-	71	52
Kanchanpur	96	24	20	1	8
Sindhuli	68	13	17	-	-
Rukum	2	2	8	21	-
Dhankuta	65	12	30	-	-
Palpa	79	11	24	-	4
Kapilvastu	61	6	-	65	2
Syangja	56	8	33	-	-
Parsa	1849	-	-	65	-
Mahottari	141	10	-	24	5
Sirha	146	7	-	-	7
Bardiya	40	-	-	-	7
Rupandehi	113	23	-	86	11
Dhading	92	19	36	-	-
Saptari	144	13	1	23	28
Dhanusha	323	104	-	145	22
Gorkha	53	-	24	-	-
Salyan	1	-	62	-	-
Jajarkot	2	-	-	-	-
Nuwakot	3	9	20	-	-
Banke	20	-	2	-	-
Kabhrepalanchowk	12	-	2	-	-
Surkhet	20	5	23	-	-
Baglung	-	1	19	-	19

1	2	3	4	5	6
Bara	1112	52	-	139	-
Mahawanpur	338	150	32	299	-
Jhapa	381	149	2	24	6
Rautahat	862	43	-	61	-
Baitadi	-	-	22	8	63
Lamjung	-	-	85	-	-
Rasuwa	-	-	24	-	-
Dolkha	-	-	7	-	-
Bhaktapur	-	-	2	-	-
Panchthar	-	-	84	-	-
Parbat	-	-	23	3	11
Bhojpur	-	-	41	-	-
Khotang	-	-	6	-	-
Solukhumbu	-	-	4	-	-
Kalikot	-	-	1	-	-
Myagdi	-	-	26	-	17
Lalitpur	-	-	25	-	-
Okhaldhunga	-	-	23	-	-
Dailekh	-	-	3	-	-
Mustang	-	-	5	-	-
Taplejung	-	-	10	-	-
Tehrathum	-	-	30	-	-
Darchula	-	-	9	-	-
Pyuthan	-	-	21	-	-
Gulmi	-	-	22	-	23
Kaski	-	-	36	-	-
Achham	-	-	-	-	21
Bajhang	-	-	-	-	29
Dadeldhura	-	-	2	-	9
Arghakhanchi	-	-	24	-	17
Total	8033	1656	1064	1427	413
No. of Districts	38	31	51	20	25

ANNEX 2
Appendix 1
Table 4a

MINIKIT EVALUATION PROJECT

Number of Farmers Helped by JT/JTAs in Filling Feedback Cards and the Numver of Farmers who Returned them

(Sampled Hill Districts)

Districts	Crops	No. of farmers interviewed	JT/JTAs helped in filling cards						Feedback cards returned back					
			Yes		No		No Response		Yes		No		No Response	
			No.	%	No.	%	No.	%	No	%	No	%	No	%
Tanahun	Rice	25	13	52	5	20	7	28	8	32	10	40	7	28
	Maize	28	7	25	21	75	-	-	15	54	9	32	4	14
Pamechhap	Rice	22	6	27	16	73	-	-	21	95	1	5	-	-
	Maize	25	6	24	19	76	-	-	21	84	4	16	-	-
Ilam	Rice	11	5	45	6	55	-	-	7	64	4	36	-	-
	Maize	60	24	40	36	60	-	-	55	92	5	8	-	-
Doti	Rice	21	20	95	1	5	-	-	11	52	10	48	-	-
	Maize	21	14	67	7	33	-	-	9	42	12	58	-	-
	Wheat	8	6	75	2	25	-	-	6	75	2	25	-	-
Total	Rice	79	44	56	28	35	7	9	47	59	25	32	7	9
	Maize	134	51	39	83	62	-	-	100	75	30	22	4	3
	Wheat	8	6	75	2	25	--	-	6	75	2	25	-	-
		221	101	46	113	51	7	3	153	69	57	26	11	5

MINIKIT EVALUATION PROJECT

Number of Farmers Helped by JT/JTAs in Filling Feedback Cards and the Number of Farmers who Returned them

(Sampled Tarai Districts)

Districts	Crops	No. of farmers interviewed	JT/JTAs helped in filling cards: Yes		No		No Response		Feedback cards returned back: Yes		No		No Response	
			No	%	No	%	No	%	No	%	No	%	No	%
Nawalparasi	Rice	19	16	84	1	5	2	11	3	16	2	11	14	72
	Maize	20	13	65	1	5	6	30	5	25	2	10	13	65
	Wheat	117	68	58	8	7	41	35	37	32	12	10	68	58
Sunsari	Rice	31	19	61	12	39	-	-	30	97	1	3	-	-
	Maize	30	19	63	11	37	-	-	30	100	-	-	-	-
	Wheat	32	19	59	13	41	-	-	30	94	2	6	-	-
Kailali	Rice	12	9	75	3	25	-	-	9	75	3	25	-	-
	Maize	21	12	57	9	43	-	-	12	57	9	43	-	-
	Wheat	8	3	38	5	62	-	-	3	38	5	62	-	-
Chitwan	Rice	29	19	68	10	32	-	-	25	86	4	14	-	-
	Maize	20	13	65	7	35	-	-	17	85	3	15	-	-
	Wheat	26	17	65	9	35	-	-	22	85	4	15	-	-
	Soyabean	26					-	-					-	-
Total	Rice	91	63	69	26	29	2	2	67	74	10	11	14	15
	Maize	91	57	63	28	31	6	6	64	70	14	15	13	15
	Wheat	183	107	58	35	19	41	23	92	50	23	13	68	37
	Soyabean	26												
		335*	227	62	89	24	49	13	223	61	47	13	95	26

* Excludes soyabean minikit farmers who were not to fill the cards.

ANNEX 2
Appendix 1
Table 4b

MINIKIT EVALUATION PROJECT

Rice Minikit Feedback Card (First Card) information on Ranges of Dates of Seed Received, Seedbed Preparation and Transplanting and the Provision of Irrigation Facilities

(Sampled District-wise)

Districts	Range			First Cards in Relation to Provision of Irri.Faci.		
	Dates of Seed Received	Dates of Seedbed Preparation	Transplanting Dates	No.	No.of Irrigation Facilities Provided	%
Ilam	18.4.'79 - 18.6.'79	10.5.'79 - 29.6.'79	10.6.'79 - 1.8.'79	40	29	72
Ramechhap	19.5.'79 - 16.6.'79	21.5.'79 - 26.6.'79	12.6.'79 - 1.8.'79	85	74	87
Tanahun	10.5.'79 - 15.6.'79	27.5.'79 - 16.6.'79	21.6.'79 -12.8.'79	101	87	86
Kailali	30.5.'79 - 4.7.'79	3.6.'79 - 12.7.'79	9.7.'79 -24.8.'79	78	47	60
Nawalparasi	31.5.'79 - 1.7.'79	2.6.'79 - 18.7.'79	27.6.'79 -16.8.'79	197	124	63
Chitawan	18.4.'79 - 3.7.'79	22.4.'79 - 5.7.'79	19.6.'79 -10.8.'79	913	867	95
Sunsari	4.5.'79 - 8.7.'79	1.6.'79 - 24.6.'79	12.7.'79 -31.7.'79	18	12	67

MINIKIT EVALUATION PROJECT

Rice Minikit Feedback Card (Second Card) Information on

Ranges of Harvesting Dates, Transplanted Area and Yields

(Variety-Rice)

Particulars	District	Minikit Rice Varieties							
		Taichung 176	CH 45	Chandina	PP - 1	Mahali	Laxmi	Savitri	Janaki	Durga
Harvesting Dates (Ranges)	Doti	10.'79								
	Tanahun		2. 7.'79-27. 7.'79	16. 6.'79-31.10.'79	2. 7.'79-17. 7.'79	13.11.'79	1. 7.'79 5. 8.'79			
	Ramechhap		3. 6.'79-15. 7.'79	3. 6.'79 15. 7.'79	26. 9.'79	1.10.'79				
	Ilam		6.10.'79-16.11.'79			1.11.'79 3.11.'79		9.12'79		
	Kailali			8.10.'79-11.11.'79			6.10.'79-14.11.'79	25.10.'79-7.12.'79	22. 9.'79-22.10.'79	
	Nawalparasi			14. 9.'79-7.11.'79		14.10.'79-25.11.'79	24. 9.'79-16.11.'79	15.10.'79-7.12.'79	15. 9.'79-16.11.'79	
	Chitawan		13. 6.'79-26. 7.'79	13. 6.'79-11.12.'79	15. 6.'79-5.11.'79	14.10.'79-13.12.'79	19. 6.'79-20.12.'79	17. 9.'79-1.12.'79	16.10.'79-15.12.'79	5. 8.'79
Transplanted Area (Ha) (Yield kg/ha)	Doti	0.34(2124)								
	Tanahun		0.02(7927)	0.05(1322)	0.02(2527)	0.05(805)	0.05(693)			
	Ramechhap		0.05(2030)	0.05(1578)		0.05(605)				
	Ilam		0.11(1265)			0.16(3351)		0.04(1917)		
	Kailali			0.04(1760)			0.05(2154)	0.04(1916)	0.05(1313)	
	Nawalparasi			0.03(4139)		0.03(2779)	0.04(4728)	0.03(2077)	0.04(4115)	
	Chitawan		0.03(1514)	0.04(3481)	0.05(1310)	0.03(4271)	0.03(3569)	0.04(3864)	0.03(3475)	0.03(1983)

ANNEX 2
Annexure 2
Table 6

1/3

MINIKIT EVALUATION PROJECT

Rice Minikit Feedback Card (Second card) Information on the Number of Farmers Finding the Variety good or bad

(Sampled District-wise)

Variety	Doti			Tanahun			Ramechhap			Ilam			Kailali			Nawalparasi			Chitawan		
	G	B	NR	G	B	NR	G	B	NR	G	B	NR	G	B	NR	G	B	NR	G	B	NR
Taichung	1	-	-																		
CH 45				8	4	3	22	1	1	1	3	-							13	11	22
Chandina				5	7	3	21	2	-				[illegible]	1	1	6	-	2	102	17	16
PP -1				5	6	2	1	-	-										11	19	20
Masuli				1	-	-	6	-	-	3	1	-				6	-	1	83	-	1
Laxmi				5	8	-							8	3	-	10	-	1	87	30	22
Savitri										1	-	-	6	2	3	5	3	1	76	17	1
Janaki													12	-	-	9	-	1	77	16	2
Durga																			1	-	-

G = Good
B = Bad
NR = No Response

ANNEX 2
Appendix 1
Table 7

MINIKIT EVALUATION PROJECT

Rice Minikit Feedback Card (Second Card) Information on Varietal Characteristics

(Sampled Hill Districts)

Minikit Rice Variety	% of minikit rice growing farmers reporting the variety as good because of																																			
	Doti									Tanahun									Ramechhap									Ilam								
	Yield			Early Maturity			Quality of Rice			Yield			Early Maturity			Quality of Rice			Yield			Early			Quality			Yield			Early Maturity			Quality of Rice		
	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR
Taichung	100	-	-	-	-	100	-	100	-																											
CH 45										27	13	60	53	-	47	47	6	27	26	-	54	96	-	4	63	4	33	25	75	-	25	75	-	25	50	25
Chandina										7	40	53	20	20	60	40	-	60	43	-	57	96	-	4	74	4	22									
FP - 1										24	38	38	-	24	76	39	15	76	100	-	-	-	100	-	-	-	100									
Mansuli										100	-	-	-	-	100	100	-	-	100	-	-	17	-	83	100	-	-	75	25	-	50	25	25	75	-	25
Laxmi										-	54	46	15	31	54	39	15	26																		
Savitri																												100	-	-	-	100	-	-	100	-

Y = Yes
N = No
NR = No Response

ANNEX 2
Appendix 1
Table 8a

115

ANNEX 2
Appendix 1
Table 8b

MINIKIT EVALUATION PROJECT

Rice Minikit Feedback Card (Second card) Information on Varietal Characteristics

(Sampled Terai Districts)

Minikit Rice Variety	% of minikit rice growing farmers reporting the variety(ies) as good because of																										
	Kailali									Nawalparasi									Chitwan								
	Yield			Early Maturity			Quality of Rice			Yield			Early Maturity			Quality of Rice			Yield			Early Maturity			Quality of Rice		
	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR
CH 45																			11	-	89	28	-	72	2	-	98
Chandina	18	9	73	27	9	64	45	10	45	63	-	37	88	-	12	50	-	50	47	-	53	69	-	31	8	-	92
PP - 1																			8	2	90	2	-	98	2	-	98
Masuli										29	-	71	-	14	86	86	-	14	57	-	43	20	-	80	51	-	49
Laxmi	18	18	64	36	18	16	45	-	55	55	-	45	55	-	45	55	-	45	37	-	63	55	1	44	4	1	95
Savitri	18	-	82	18	27	55	45	-	55	56	-	44	11	22	67	-	33	67	47	-	53	6	4	90	13	1	86
Janaki	17	8	75	42	-	58	67	-	33	70	-	30		30	70	60	-	40	47	2	51	15	1	84	7	-	93
Durga																			-	-	100	-	100	-	100	-	-

Y = Yes
N = No
NR = No Response

ANNEX 2
Appendix 1
Table 9

MINIKIT EVALUATION PROJECT

Maize Minikit Feedback card information Yields

Variety	Summarised Average Maize Yields (kg/ha)					
	Hill Districts				Terai Districts	
	Ilam	Ramechhap	Tanahu	Doti	Kailali	Sunsari
Khumal Pahelo	1159	1380	1509	295	1237	1400
Rampur Pahenlo	196	786	1120	x	874	2161
Hetauda Composite	452	1827	1120	x	584	1179
Ganesh - 2	x	2161	1650	x	98	x
Kakani Pahenlo	1174	270	1159	x	79	x
Sarlahi Seto	2128	1506	1729	x	1834	x

MINIKIT EVALUATION PROJECT

Maize Minikit Feedback card information on Varietal Characteristics

(Sampled District - wise)

Minikit Maize Variety	Districts	No. of Farmers Planting Variety	Particulars (Farmers reacting on the variety(ies) by putting either [✓] mark or [✗] mark) Yielding more than local			Maturing earlier than local			Less Susceptible to Diseases than local			Less Lodging than local			No Cob Rotting			Less Susceptible to insects than local			Dwarfer than local			Appealing colour of grains			Tastier than local			Variety(ies) preferred		
			Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR	Y	N	NR
Khumal Yellow	Doti	2	1	-	1	-	1	1	1	-	1	-	1	1	1	-	1	1	-	1	-	1	1	-	1	1	-	1	1	-	1	1
	Tanahun	27	24	1	2	2	21	4	11	12	4	9	15	3	14	10	3	9	15	3	9	15	3	22	4	1	17	9	1	11	-	16
	Ramechhap	28	25	-	3	20	5	3	17	8	3	24	1	3	24	1	3	15	10	3	24	2	2	24	1	3	18	1	9	20	-	8
	Ilam	10	6	2	2	8	-	2	6	2	2	8	-	2	3	5	2	3	5	2	8	-	2	8	-	2	5	3	2	6	-	4
	Kailali	10	6	3	1	6	3	1	4	5	1	7	2	1	7	2	1	4	6	-	8	2	-	10	-	-	8	2	-	5	2	3
	Sunsari	4	4	-	-	1	2	1	1	2	1	2	1	1	3	-	1	1	2	1	-	2	2	3	-	1	2	-	2	1	1	2
Rampur Yellow	Tanahun	6	5	-	1	-	5	1	3	2	1	2	3	1	3	2	1	2	3	1	1	4	1	2	3	1	4	1	1	2	-	4
	Ramechhap	1	1	-	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	1	-	-	1	-	-	1	-	-	-	1	-
	Ilam	1	-	1	-	1	-	-	-	1	-	1	-	-	-	1	-	-	1	-	1	-	-	1	-	-	-	1	-	1	-	-
	Kailali	12	10	1	1	10	2	-	7	5	-	12	-	-	9	2	1	6	6	-	9	2	1	12	-	-	9	2	1	8	-	4
	Sunsari	2	2	-	-	2	-	-	1	1	-	-	1	1	2	-	-	1	1	-	-	1	1	2	-	-	2	-	-	2	-	-
Hetauda Composite	Tanahun	9	8	1	-	3	5	1	4	4	1	4	4	1	7	1	1	3	5	1	6	2	1	8	1	-	7	2	-	2	-	7
	Ramechhap	6	5	-	1	4	-	2	2	3	1	2	2	2	5	-	1	2	3	1	4	1	1	5	-	1	5	-	1	5	-	1
	Ilam	3	2	1	-	3	-	-	2	1	-	3	-	-	1	2	-	2	1	-	3	-	-	2	1	-	1	2	-	2	-	1
	Kailali	4	4	-	-	4	-	-	4	-	-	4	-	-	4	-	-	4	-	-	4	-	-	4	-	-	4	-	-	1	3	-
	Sunsari	2	1	-	1	-	1	1	-	1	1	1	-	1	1	-	1	-	1	1	-	1	1	1	-	1	1	-	1	1	-	1
Sarlahi Seto	Doti	2	-	1	1	-	1	1	1	-	1	-	1	1	1	-	1	-	1	1	1	-	1	1	-	1	1	-	1	1	-	1
	Tanahun	7	5	2	-	-	6	1	2	4	1	5	1	1	6	-	1	2	4	1	-	6	1	6	1	-	4	3	-	3	--	4
	Ramechhap	7	5	-	2	3	2	2	3	2	2	5	-	2	5	-	2	3	2	2	4	1	2	5	-	2	5	-	2	2	-	5
	Ilam	3	3	-	-	2	-	1	3	-	-	3	-	-	2	1	-	2	1	-	3	-	-	3	-	-	3	-	-	2	-	1
	Kailali	4	4	-	-	3	1	-	2	2	-	4	-	-	3	1	-	2	2	-	1	2	1	1	2	1	4	-	-	1	2	1
Kakani Yellow	Tanahun	7	5	1	1	4	2	1	4	2	1	4	2	1	3	3	1	4	2	1	3	3	1	5	1	1	7	-	-	4	-	3
	Ramechhap	6	3	3	-	-	6		2	4	-	3	1	2	4	2	-	-	5	1	-	5	1	2	3	1	3	2	1	-	1	5
	Ilam	6	3	1	2	3	1	2	4	-	2	4	-	2	3	1	2	4	-	2	4	-	2	4	-	2	2	2	2	3	-	3
	Kailali	1	1	-	-	1	-	-	1	-	-	-	1	-	1	-	-	-	1	-	-	1	-	-	1	-	1	-	-	1	-	-
Gemsah	Tanahun	3	2	1	-	1	2	-	1	2	-	2	1	-	3	-	-	2	1	-	2	1	-	3	-	-	3	-	-	1	-	2
	Ramechhap	5	2	-	3	1	1	3	1	1	3	1	1	3	2	-	3	1	1	3	2	-	3	2	-	3	2	1	3	1	-	4
	Kailali	1	-	1	-	1	-	-	1	-	-	-	1	-	-	-	1	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-

ANNEX XX
Appendix 1
Table 10

ANNEX 2
Appendix 1
Table 11

MINIKIT EVALUATION PROJECT

Maize Minikit Feedback Card information on Farmers' Positive Reactions

(Variety - wise)

Variety	No. of Farmers Planting The Variety	Particulars to Which Farmers Placed Their Positive Reactions (No. of Farmers)																			
		Yielding More Than Local		Maturing Earlier Than Local		Less Susceptible to Diseases Than Local		Less Lodging Than Local		No Cob Rotting		Less Susceptible To Insect Than Local		Dwarfer Than Local		Tastier Than Local		Variety(ies) Preferred		Appealing Grain Colour	
		Yes	%	Yes	%	Yes	%	Yes	%	Yes	%	Yes	%	Yes	%	Yes	%	Yes	%	Yes	%
Khumal Pahenlo	81	66	82	37	46	40	49	50	62	52	64	33	41	49	60	50	62	43	53	67	83
Rampur Pahenlo	22	18	82	13	59	11	50	15	68	14	64	9	41	12	55	16	73	13	59	18	82
Hetauda Composite	24	20	83	14	58	12	50	14	58	18	75	11	47	17	71	18	75	11	46	20	83
Sarlahi Seto	23	17	74	8	35	11	48	17	74	17	74	9	39	9	39	17	74	9	39	16	70
Kakani Pahenlo	20	12	60	8	40	11	55	11	55	11	55	8	40	7	35	13	65	8	40	11	55
Ganesh - 2	8	4	50	3	38	3	38	3	38	5	63	4	50	5	63	5	63	3	38	6	75

MINIKIT EVALUATION PROJECT

Wheat Minikit Feedback Card Information 1978/79

(Four Sampled Districts)

Districts		No. of feedback cards received by crop progress	Variety		Average Yield (kg/ha)	Type of the land brought under the cultivation				Date of Sowing (Range)	Method of Sowing				Germination				Type of soil of the land brought under cultivation				
						Tar	Dol	Other	No. Response		Line	Kera	Broad-casting	No. Response	Thin	Dense	Medium	No. Response	Sandy	Clay	Loamy	Alluvial	No. Response
Kalkali	A																						
	B	11			1091	-	1	8	2	7.11.'78-26.12.'78	8	3	-	-	2	-	9	-	-	3	7	1	-
Lendipandi	A	1	NL	30	855	68	68	58	1														
	B	217			690	68	68	58	25	22.10.'78-8.12.'78	90	101	44	2	24	13	173	7	35	46	131	5	
Chitawan	A	7	NL	88	619			1															
	B	143			809	81	23	35	4	23.11.'78-24.12.'78	1 53	43	47		1 18	11	112	2	39	-	102		
Sunsari	A	12	HD	1902	923	6	4	1	1	28.11.'78-22.12.'78	3	4	5		2	9	1		1	2	7	2	
	B	1				1				18.11.'78	1						1			1			

Note: A = Farmer(s) mentioning the name of the variety.
B = Farmer(s) not mentioning the name of the variety.

Districts		Particulars														
		Number of farmers using						During the period between Sowing & Harvesting		Date of harvesting	Quality of Produce				Cultivation in the Next Year	
		Complex	Urea	Potash	Am.Sul.	FYM	No. Response	No. of Irrigation Provided	No. of Rainfall		Bold	Shrunk	Small but Bold	No. Response	Area to be Cultivated (ha)	Quantity of Seed Preserved (kg)
Erilali	A															
	B	7	4	2	1	6		10	11	30.3.'79-22.4.'79	0	2	1			6
Kavelpurani	A															
	B	158	93	63	10	128		126	149	7.2.'79-28.4.'79	102	13	81	21		181
Chittur	A	1		1		1			1			1				
	B	56	42	35	28	58		72	117	20.3.'79-15.4.'79	54	24	65			58
Sumari	A	9	10	4		10		6	6	12.3.'79 9.4.'79	5		6	1	0.52(7)	6
	B	1	1	1				1	1	10.3.'79			1		1.36(1)	

Note: A = Farmer(s) mentioning the name of the variety.
B = Farmer(s) not mentioning the name of the variety.

Annex
Appendix
Pg.
No.

		Particulars								
		Reasons for not cultivating minikit wheat variety in the next year							Farmers' comments on programme	
		Bad Grains	Late Maturing	Low Yield	More susceptible to		Low Grain-bearing	No Response	Good	No Response
					Diseases	Insects				
Kailali	A									
	B								14	-
Nawalparasi	A								-	1
	B	5	6	4		3	1		--	217
Chitawan	A	1							-	1
	B	7	12	28	1	15	2		110	33
Sunsari	A			2		1	1		9	3
	B								1	-

Note: A = Farmer(s) mentioning the name of the variety.
B = Farmer(s) not mentioning the name of the variety.

ANNEX 2
Appendix 1
Table 12
Page 3

MINIKIT EVALUATION PROJECT

Wheat Minikit Feedback Card information, 1979/80

(Four Sampled Districts)

Districts		No. of feedback cards received by crop programme	Particulars																				
			Variety received	Average Yield (kg/ha)	Type of the land brought under the cultivation				Date of Sowing (Range)	Method of Sowing				Germination				Types of soil of the land brought under cultivation				
					Tar	Dol	Other	No Response		Line	Kera	Broadcasting	No Response	Thin	Dense	Medium	No Response	Sandy	Clay	Loamy	Alluvial	No Response
Kailali	A	10	RR 21, UP 262, HP 1303	41.5	2	7	1		24.11.'79-15.12.'79	9	1					7	3	2	7	1		
	B																					
Nawalparasi	A	11	UP 262, HP 1303	43.5	2		8	1	24.11.'79-30.12.'79	2	6	3		2	1	8		1	3	7		
	B	2		5.5			2		24.11.'79-2.12.'79	1	1				1	2		1		1		
Sunsari	A	5	UP 262	79.8	2	1	1	1	18.11.'79-19.12.'79	4		1		1		1		1	2	2		
	B	2		392.5			2		25.12.'79			2		1		1		1		1		
Doti	A	9	RR 21, NL 30	117	2	2	5		9.11.'79-25.12.'79		1	8			1	8		5	4			
	B	9		60	2	5	1	1	21.10.'79-		2	7		3		6		5	1	2		

Note: A = Farmer(s) mentioning the name of the variety.
B = Farmer(s) not mentioning the name of the variety.

ANNEX 2
Appendix 1
Table 11
Page 1

Districts		Particulars														
		Number of farmers Using						During the period Between Sowing & Harvesting		Date of Harvesting (Range)	Grains of Produce				Cultivation in the Next Year	
		Complex	Urea	Potash	Am. Sul.	FYM	No Response	No. of Irrigation Provided	No. of Rainfall		Bold	Shrunk	Small but Bold	No Response	Area to be Cultivated (ha)	Quantity of Seed Preserved (kg)
Kailali	A	9	8	2		8		14	18	23.3.'80-14.4.'80	7	1	2		0.97(10)	
	B															
Nawalparasi	A	9	8	2	3	7	1	10	23	2[illegible].'80-15.4.'80	4	1	6		1.98(7)	(8)
	B							2	3	23.3.'80-7.4.'80	2				0.34(2)	(2)
Sunsari	A	3	3	2	2	1		10	6	9.3.'80 9.4.'80	2		3		0.79(3)	(5)
	B	2	2	2				2	1	9.3.'80-12.4.'80			2		1.36(1)	(1)
Doti	A	4	4	1	1	5				17.3.'80-13.5.'80	7	1	1		0.95(5)	(5)
	B	1	1		1	2				12.4.'80-4.5.'80	7		2		0.48(7)	(7)

Note: A = Farmer(s) mentioning the name of the variety.
B = Farmer(s) not mentioning the name of the variety.

ANNEX 2
Appendix 1
Table 13
Page 2

Districts		Particulars							
		Reasons for not cultivating minikit wheat variety in the next year						Farmers' comments on programme	
		Bad Grains	Late Maturing	Low Yield	More susceptible to Disease	More susceptible to Insects	Low Grain-bearing	No Response	Good	No Response
Kailali	A							10	10	
	B									
Nawalparasi	A							11	8	3
	B							2	2	-
Sunsari	A			1		1		3	5	-
	B					1		1	2	-
Doti	A					2		7	9	-
	B					2		7	8	1

Note: A = Farmer(s) mentioning the name of the variety.

B = Farmer(s) not mentioning the name of the variety.

ANNEX 2
Appendix 1
Table 1/A

MINIKIT EVALUATION PROJECT

Objectives of Minikit Programme as Perceived by JT/JTA Respondents

S. No.	Objectives	JT/JTA Respondents No.	%
1.	A type of result demonstration including various components	11	12
2.	A small packet of seeds of improved varieties of crops	5	5
3.	A kind of fast publicity of improved varieties of crops	9	10
4.	A kind of field trial	13	14
5.	A means to enhance production	6	7
6.	A means to learn about improved cultivation to the farmers	7	8
7.	To make farmers familiar with modern agriculture	7	8
8.	A programme to get farmers' reactions on improved varieties of crops	5	5
9.	A programme introduced by the ICP	1	1
10.	To supply the seed of crops for experiment	2	2
11.	A programme of free distribution of improved varieties of crops	4	4
12.	A means to carry seed from agriculture stations and farms to farmers	6	7
13.	A means to have an idea of better seed	12	13
14.	A programme to distribute seed to farmers	21	23

N No. of JT/JTA Respondents - 91.

ANNEX 2
Appendix 1
Table 14b

MINIKIT EVALUATION PROJECT

Minikit Programme Objectives as Perceived by ADO Respondents

S. No.	Objectives	ADO Respondents	
		No.	%
1.	To popularise high yielding varieties of crops	2	25
2.	Multiplication of the best varieties of crops	1	12
3.	Dissemination of varieties and technology	6	75
4.	Provide farmers an opportunity to select best variety(ies) of crops	2	25
5.	Enable farmers to store seed for the next year	2	25

Note: No. of ADO Respondents - 8.

MINIKIT EVALUATION PROJECT

Minikit Programme Objectives as Perceived by RD Respondents

S. No.	Objectives	RD Respondents No.	%
1.	Help production increase by quick dissemination of improved varieties of crops	2	50
2.	Popularise varieties of crops and component technologies	3	75
3.	Give choice of varieties of crops to farmers	3	75
4.	It is not RD's programme, so RD is not supposed to know	1	25
5.	Evaluate varietal performance and accompanied technologies	1	25
6.	Maintain feedback system between research and extension	1	25

Note: No. of RD Respondents - 4.

ANNEX P
Appendix 1
Table 14d

MINIKIT EVALUATION PROJECT

Minikit Programme Objectives as Perceived by Crop Coordinator Respondents

S. No.	Objectives	Crop Coordinator No.	%
1.	Quick popularisation of new recommended varieties of crops	2	67
2.	Quick dissemination of varieties of crops	1	33
3.	Feedback of varietal performance	1	33
4.	Getting farmers' reactions on the programme	1	33
5.	Introducing new and old high yielding varieties of crops	1	33
6.	Providing opportunity to farmers to select best high yielding varieties of crops	1	33

Note: No. of Crop Coordinator Respondents - 3

ANNEX 2
Appendix 1
Table 15a

MINIKIT EVALUATION PROJECT

Roles and Responsibilities of JT/JTAs as Understood by JT/JTA Respondents

S. No.	Roles and Responsibilities	JT/JTA Respondents No.	%
1.	Select progressive farmers and distribute minikits to them	61	67
2.	Create awareness among farmers about minikit	11	12
3.	Supervise minikit programme	59	65
4.	Help to make the programme a success	3	3
5.	Record results and send to concerned authorities	22	24
6.	Try to disseminate minikit seed	2	2
7.	Help farmers in filling feedback cards and return them back	9	10
8.	Pay visits to farmers' minikit plots	3	3
9.	Help to continue the programme year after year	1	1
10.	Give training to farmers receiving minikits	1	1

Note : No. of JT/JTA Respondents - 91.

ANNEX 2
Appendix 1
Table 15b

MINIKIT EVALUATION PROJECT

Roles of ADOs in Launching Minikit Programme as Understood by ADO Respondents

S. No.	Roles	ADO Respondents No.	%
1.	Selection of farmers and distribution of minikits	5	63
2.	Supervision of minikit	4	50
3.	Helping minikit receiving farmers to return the feedback cards to the crop programmes	1	13
4.	Visit to the farmers' minikit plots	1	13
5.	Report RDs regarding minikit problems	2	25
6.	Avoid distribution of minikits to the same farmers every year	1	13
7.	Record minikit yield performance	1	13
8.	Conduct minikit training to JT/JTAs	1	13
9.	Not well defined	1	13

Note: No of ADO Respondents - 8

ANNEX 2
Appendix 1
Table 15c

MINIKIT EVALUATION PROJECT

Roles and Responsibilities of RDs in the Minikit Programme

as Perceived by RD Respondents

S. No.	Roles and Responsibilities	RD Respondents	
		No.	%
1.	Help in the distribution of minikits	3	75
2.	Advise crop coordinators if necessary	1	25
3.	No role at all except diverting minikits received to the districts	1	25
4.	Follow up the programme	1	25
5.	Supervise the programme	1	25

Note: No. of RD Respondents - 4.

ANNEX 2
Appendix 1
Table 15d

MINIKIT EVALUATION PROJECT

Roles and Responsibilities of Crop Coordinators in the Programme as Perceived by Crop Coordinator Respondents

S. No.	Roles and Responsibilities	Crop Coordinator Respondents	
		No.	%
1.	Preparation and distribution of Minikit Packets	3	100
2.	Analysis and reporting of Minikit results	2	67
3.	Supervision of the minikit	3	100

Note: No. of Crop Coordinator respondents - 3.

MINIKIT EVALUATION PROJECT

No. of Minikit Farmers Knowing About Improved Varieties of Crops Before and After the Introduction of Minikit Programme

District		Rice													Wheat						Maize						Soybean
		CH45	Masuli	Chinan 242	Tai-Chung 176	IR20	IR8	Chandina	Laxmi	Durga	Janaki	Savitri	PP1	IR 2061	RR21	Lerma 64	TP 262	Hupatako	NL30	NL88	Pahelo Rampur	Pahelo Khumal	Kanchan	Composite Rampur	Composite Satakude	Composite Lahi Sato	(Barley)
Ilam	A	8	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	8	4	5	15	3	-
	B	-	-	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	3	-	-
Ramechhap	A	9	8	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	6	-	7	-	4	-
	B	-	9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
Tanahun	A	5	14	-	-	-	-	15	4	-	-	-	1	1	-	-	-	-	-	-	14	10	-	-	12	5	-
	B	5	4	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
Doti	A	-	-	-	1	-	13	-	2	1	7	1	-	-	8	-	-	-	-	2	15	-	-	-	-	13	-
	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Banari	A	-	8	4	5	-	-	-	-	-	5	-	-	-	2	2	2	-	-	-	3	-	-	-	-	1	-
	B	-	5	1	1	-	6	-	-	-	-	-	-	-	8	1	-	-	-	-	-	-	-	-	-	-	-
Chitawan	A	2	12	-	-	-	-	14	4	-	5	5	-	3	-	-	2	5	8	-	8	-	-	5	1	6	26
	B	2	11	-	-	-	1	-	-	-	-	-	-	-	25	-	-	-	-	-	6	12	-	-	-	1	-
Nawalparasi	A	4	6	-	5	-	-	-	-	-	-	-	4	2	2	-	-	-	5	2	1	5	-	-	-	5	-
	B	-	8	-	-	1	4	-	-	-	-	-	-	-	6	-	-	-	-	-	1	5	-	-	-	-	-
Kailali	A	-	8	-	-	-	2	4	2	-	2	-	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-
	B	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: A = No. of farmers knowing about improved varieties of crops after the introduction of Minikit Programme.

B = No. of farmers knowing about improved varieties of crops before the introduction of Minikit Programme.

134

ANNEX 2
Appendix 1
Table 17

MINIKIT EVALUATION PROJECT

No. of Non-Minikit and Key Farmers Showing Interest to Get Minikits

(Sampled District-wise and Crop-wise)

District	Interviewed		No. of Farmers Showing Interest to Receive Minikits															
			Rice				Maize				Wheat				Soyabean			
			Yes		No		Yes		No		Yes		No		Yes		No	
	No.	Farmers	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Dotl	7	Non-Minikit	7	100	-	-	7	100	-	-	7	100	-	-	-	-	-	-
	11	Key	11	100	-	-	11	100	-	-	11	100	-	-	-	-	-	-
Dadhun	14	Non-Minikit	12	86	2	14	12	86	2	14	-	-	-	-	-	-	-	-
	22	Key	21	95	1	5	21	95	1	5	-	-	-	-	-	-	-	-
Rameshhap	4	Non-Minikit	3	75	1	25	4	100	-	-	-	-	-	-	-	-	-	-
	10	Key	8	80	2	20	9	90	1	10	-	-	-	-	-	-	-	-
Ilam	5	Non-Minikit	5	100	-	-	5	100	-	-	-	-	-	-	-	-	-	-
	10	Key	18	100	-	-	18	100	-	-	-	-	-	-	-	-	-	-
Sunsari	6	Non-Minikit	6	100	-	-	6	100	-	-	6	100	-	-	-	-	-	-
	12	Key	12	100	-	-	11	92	1	8	12	100	-	-	-	-	-	-
Nawalparasi	8	Non-Minikit	3	38	5	62	2	25	6	75	6	75	2	25	-	-	-	-
	7	Key	1	14	6	86	4	57	3	43	4	57	3	43	-	-	-	-
Chitawan	10	Non-Minikit	7	70	3	30	7	30	3	30	7	70	3	30	7	70	3	30
	12	Key	7	58	5	42	8	67	4	33	7	58	5	42	6	50	6	50
Kailali	7	Non-Minikit	7	100	-	-	7	100	-	-	7	100	-	-	-	-	-	-
	14	Key	14	100	-	-	13	93	1	7	13	93	1	7	-	-	-	-
Total	61	Non-Minikit	50	82	11	18	50	82	11	18	33	87	5	13	7	70	3	30
	106	Key	92	87	14	13	95	90	11	10	47	84	9	16	6	50	6	50

MINIKIT EVALUATION PROJECT

Response of Key and Non-Minikit Farmers

(Sampled District-wise)

	Farmers Interviewed		Response Regarding																			
			Production Increased				Good Method of Seed Dissemination				Minikit Programme: a Success				Minikits Distributed On Time					
	Farmers	No.	Yes		No		Yes		No		Yes		No		Yes		No		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Ilam	Key	18	18	100	-	-	10	56	8	44	18	100	-	-	5	28	13	72	-	-
	Non-Minikit	5	4	80	1	20	2	40	3	60	3	60	2	40	2	40	3	60	-	-
Ramechhap	Key	10	10	100	-	-	10	100	-	-	5	50	5	50	5	50	5	50	-	-
	Non-Minikit	4	4	100	-	-	4	100	-	-	4	100	-	-	4	100	-	-	-	-
Tanahun	Key	22	15	68	7	32	19	86	3	14	19	86	3	14	16	73	-	-	6	27
	Non-Minikit	14	10	71	4	29	10	71	4	29	12	86	2	14	8	57	-	-	6	43
Doti	Key	11	11	100	-	-	9	82	2	18	9	82	2	18	7	64	4	36	-	-
	Non-Minikit	7	7	100	-	-	7	100	-	-	7	100	-	-	6	86	1	14	-	-
Kailali	Key	14	7	50	7	50	7	50	7	50	6	43	8	57	7	50	7	50	-	-
	Non-Minikit	7	5	71	2	29	5	71	2	29	4	57	3	43	4	57	3	43	-	-
Nawalparasi	Key	7	7	100	-	-	7	100	-	-	5	71	2	29	7	100	-	-	-	-
	Non-Minikit	8	8	100	-	-	8	100	-	-	8	100	-	-	8	100	-	-	-	-
Chitawan	Key	12	12	100	-	-	12	100	-	-	12	100	-	-	10	83	2	17	-	-
	Non-Minikit	10	10	100	-	-	8	80	2	20	10	100	-	-	8	80	2	20	-	-
Sunsari	Key	12	12	100	-	-	12	100	-	-	12	100	-	-	10	83	2	17	-	-
	Non-Minikit	6	6	100	-	-	6	100	-	-	5	83	1	17	4	67	2	33	-	-
Total	Key	106	92	87	14	13	82	77	24	23	86	81	20	19	67	63	33	31	6	6
	Non-Minikit	61	54	89	7	11	50	82	11	18	53	87	8	13	44	72	11	18	6	10

ANNEX 2
Appendix 1
Table 18

MINIKIT EVALUATION PROJECT

Minikit Farmers' Interest in Growing Minikit Crop Varieties and Their Sources of Seeds

(Sampled Hill Districts)

Districts	Crop	No. of Minikit Farmers Interviewed	No. of Interviewed Farmers Interested in Growing Minikit Crop Varieties		Source of Minikit Crop Seeds							
					ADC		Sajha		Own		Relatives	
			No.	%	No.	%	No.	%	No.	%	No.	%
Doti	Rice	21	15	71	15	100	[illegible]	[illegible]	13	87	2	13
	Maize	21	20	95	20	100	2	10	5	25	2	10
	Wheat	8	8	100	8	100	5	63	5	63	2	25
	Total	50	43	86	43	100	12	28	23	53	6	14
Tanahun	Rice	25	21	84	10	48	6	29	11	52	-	-
	Maize	28	28	100	28	100	4	14	14	50	1	4
	Total	53	49	92	38	78	10	20	25	51	1	2
Ramechhap	Rice	22	12	55	8	67	5	42	5	42	4	33
	Maize	25	24	96	22	92	-		22	92	-	-
	Total	47	36	77	30	83	5	14	27	75	4	11
Ilam	Rice	11	8	73	6	75	3	38	5	63	1	13
	Maize	60	50	83	41	82	15	30	15	30	20	40
	Total	71	58	82	47	81	18	31	20	34	21	36
Total	Rice	79	56	71	39	70	19	34	34	61	7	12
	Maize	134	122	91	111	91	21	17	56	46	23	19
	Wheat	8	8	100	8	100	5	63	5	63	2	25
	Total	221	186	84	158	85	45	24	95	51	32	17

MINIKIT EVALUATION PROJECT

Minikit Farmers' Interest in Growing Minikit Crop Varieties and Their Sources of Seeds

(Sampled Terai Districts)

Districts	Crop	No. of Minikit Farmers Interviewed	No. of Interviewed Farmers Interested in Growing Minikit Crop Varieties		Source of Minikit Seed							
					ADO		Sajha		Own		Neighbours	
			No.	%	No.	%	No.	%	No.	%	No.	%
Sunsari	Rice	31	29	94	26	90	10	34	18	62	3	10
	Maize	30	28	93	20	71	5	18	10	36	5	18
	Wheat	32	28	86	22	79	10	36	10	36	4	14
	Total	93	85	91	68	80	25	29	38	45	12	14
Chitawan	Rice	29	26	90	15	58	10	38	11	42	3	12
	Maize	20	18	90	15	83	2	11	5	27	2	11
	Wheat	26	24	92	20	83	12	50	8	33	4	17
	Soyabean	26	20	77	15	75	-	-	6	30	5	25
	Total	101	88	87	65	74	24	27	30	34	14	16
Nawalparasi	Rice	19	18	95	7	39	10	56	10	56	-	-
	Maize	20	19	95	10	53	5	26	15	79	-	-
	Wheat	117	117	100	35	30	55	47	51	43	-	-
	Total	156	154	99	52	34	70	45	116	75	-	-
Kailali	Rice	12	10	83	8	80	2	20	8	80	2	20
	Maize	21	17	81	15	88	5	29	8	47	4	24
	Wheat	8	4	50	4	100	2	50	3	75	2	50
	Total	41	31	76	27	87	9	29	19	61	8	26
Total	Rice	91	83	91	56	67	32	39	47	57	8	10
	Maize	91	82	90	60	73	17	21	38	46	11	13
	Wheat	183	173	95	81	47	79	46	112	65	10	6
	Soyabean	26	20	77	15	75	-	-	6	30	5	25
	Total	391	358	92	212	59	128	36	203	57	34	9

Table 5

ANNEX 2
Appendix 1
Table 20a

MINIKIT EVALUATION PROJECT

JT/JTAs' Response on Performance of Minikits and no. of Neighbours of Minikit Farmers Using the Good Minikit Varieties

(Sampled Hill Districts)

Districts	No. of JT/JTAs Interviewed	Crops	Performance of Minikits			No. of Neighbours of Minikit Farmers Using the Good Minikit Varieties					
			Very Good	Good	Bad	1	2	3	4	5	More than 5
Tanahun	8	Rice	1	5	2	-	-	1	-	1	4
		Maize	3	5	-	-	-	-	2	1	5
Ramechhap	10	Rice	-	8	2	-	-	-	-	8	-
		Maize	4	4	2	-	-	4	4	-	-
Ilam	10	Rice	-	6	4	1	-	-	-	4	1
		Maize	4	6	-	-	1	-	1	-	6
Doti	5	Rice	2	2	1	-	-	1	1	1	1
		Maize	2	3	-	-	-	1	1	2	1
		Wheat	4	1	-	-	-	-	-	-	4

MINIKIT EVALUATION PROJECT

JT/JTAs' Response on Performance of Minikits and No. of Neighbours of Minikit Farmers Using the Good Minikit Varieties

(Sampled Terai Districts)

Districts	No. of JT/JTAs Interviewed	Crops	Performance of Minikits			No. of Neighbours of Minikit Farmers Using the Good Minikit Varieties					
			Better	Good	Bad	1	2	3	4	5	More than 5
Sunsari	16	Rice	6	9	1	1	3	1	2	4	4
		Maize	5	10	1	-	-	-	-	-	-
		Wheat	9	7	-	1	1	1	1	3	4
Chitawan	20	Rice	4	15	1	-	-	2	3	-	8
		Maize	5	15	-	-	-	3	5	-	9
		Wheat	3	14	3	4	-	-	7	-	5
		Soyabean	7	12	1	-	-	5	-	2	10
Nawalparasi	14	Rice	2	11	1	2	6	1	-	2	1
		Maize	5	9	-	-	-	-	-	-	-
		Wheat	3	10	1	-	2	-	-	4	4
Kailali	8	Rice	3	4	1	-	-	1	1	-	4
		Maize	1	7	-	-	1	-	4	-	3
		Wheat	1	2	5	-	-	1	1	-	1

MINIKIT E[illegible]ATION PROJECT

Farmers' Response Regarding the Impact of Minikit Programme in Their and Neighbouring Panchayats

(Sampled Hill Districts)

District	Crops	No. of farmers Interviewed	Farmers Reporting Programme Impact in Neighbour Panchayats: Less		More		[illegible]		Programme in Neighbourhood: Success		Failure		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Tanahun	Rice	25	12	48	8	32	5	20	[illegible]	88	2	8	1	4
	Maize	28	12	43	14	50	2	7	26	93	-	-	2	7
Hamechhap	Rice	22	18	82	2	9	2	9	8	36	12	55	2	9
	Maize	25	17	68	8	32	-	-	12	48	12	48	1	4
Ilam	Rice	11	9	82	2	18	-	-	2	18	9	82	-	-
	Maize	60	10	17	50	83	-	-	50	83	-	-	10	17
Doti	Rice	21	17	81	4	9	-	-	20	95	1	5	-	-
	Maize	21	15	71	6	29	-	-	20	95	1	5	-	-
	Wheat	8	3	38	5	62	-	-	8	100	-	-	-	-
Total	Rice	79	56	71	16	20	7	9	52	66	24	30	3	4
	Maize	134	54	40	78	58	2	1	108	80	13	10	13	10
	Wheat	8	3	38	5	62	-	-	8	100	-	-	-	-
		221	113	51	99	45	9	4	168	76	37	17	16	7

MINIKIT EVALUATION PROJECT

Farmers' Response Regarding the Impact of Minikit Programme in Their and Neighbouring Panchayats

(Sampled Tarai Districts)

District	Crops	No. of farmers Interviewed	Farmers Reporting Programme Impact in Neighbour Panchayats						Programme in Panchayat					
			Less		More		N R		Success		Failure		N R	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Nawalparasi	Rice	19	-	-	19	100	-	-	15	79	4	21	-	-
	Maize	20	1	5	19	95	-	-	19	95	1	5	-	-
	Wheat	117	41	35	76	65	-	-	64	55	53	45	-	-
Sunsari	Rice	31	7	23	23	74	1	3	31	100	-	-	-	-
	Maize	30	3	10	23	77	4	13	30	100	-	-	-	-
	Wheat	32	6	19	24	75	2	6	32	100	-	-	-	-
Kailali	Rice	12	5	42	7	58	-	-	10	83	2	17	-	-
	Maize	21	8	38	12	57	1	5	18	85	2	10	1	5
	Wheat	8	3	37	4	50	1	13	5	63	2	25	1	12
Chitawan	Rice	29	8	28	21	72	-	-	21	72	8	28	-	-
	Maize	20	5	25	15	75	-	-	15	25	5	25	-	-
	Wheat	26	5	19	21	81	-	-	21	81	5	19	-	-
	Soyabean	26	6	23	20	77	-	-	20	77	6	23	-	-
Total	Rice	91	20	22	70	77	1	1	77	85	14	15	-	-
	Maize	91	17	19	69	76	5	6	82	90	8	9	1	1
	Wheat	183	55	30	125	68	3	2	122	67	60	32	1	1
	Soyabean	26	6	23	20	77	-	-	20	77	6	23	-	-
		391	98	25	284	73	9	2	301	77	88	22	2	1

AREA ASSOCIATE INDIA

142

MINIKIT EVALUATION PROJECT

Farmers' Response about the Information on Minikit, Source of Minikit and Presence of JT/JTAs at the Planting Time

(Sampled Hill Districts)

District	Crop	No. of farmers Interviewed	Information received from ADOs		Neighbours		No Response		Minikits received from ADOs		Neighbourers		Presence of JT/JTAs Yes		No	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Tanahun	Rice	25	23	92	-	-	2	8	25	100	-	-	19	76	6	24
	Maize	28	28	100	-	-	-	-	28	100	-	-	15	54	13	46
Ramechhap	Rice	22	20	91	-	-	2	9	20	91	2	9	3	14	19	86
	Maize	25	21	84	-	-	4	16	20	80	5	20	3	12	22	88
Ilam	Rice	11	11	100	-	-	-	-	11	100	-	-	6	55	5	45
	Maize	60	60	100	-	-	-	-	60	100	-	-	35	83	25	17
Doti	Rice	21	21	100	-	-	-	-	21	100	-	-	14	67	7	33
	Maize	21	21	100	-	-	-	-	21	100	-	-	11	52	10	48
	Wheat	8	8	100	-	-	-	-	8	100	-	-	5	63	3	37
Total	Rice	79	75	95	-	-	4	5	77	97	2	3	42	53	37	47
	Maize	134	130	97	-	-	4	3	129	96	5	4	64	48	70	52
	Wheat	8	8	100	-	-	-	-	8	100	-	-	5	63		37
		221	213	96			8	4	214	97	7	3	111	50	110	50

MINIKIT EVALUATION PROJECT

Farmers' Response about the Information on Minikit, Source of Minikit and Presence of JT/JTAc at the Planting Time

(Sampled Hill Districts)

District	Crop	No. of farmers Interviewed	Information received from ADOs No.	ADOs %	Neighbours No.	Neighbours %	No Response No.	No Response %	Minikits received from ADOs No.	ADOs %	Neighbourers No.	Neighbourers %	Presence of JT/JTAs Yes No.	Yes %	No No.	No %
Nawalparasi	Rice	19	19	100	-	-	-	-	18	95	1	5	19	100	-	-
	Maize	20	20	100	-	-	-	-	20	100	-	-	19	95	1	5
	Wheat	117	117	100	-	-	-	-	100	85	17	15	52	44	65	56
Sunsari	Rice	31	31	100	-	-	-	-	27	87	4	13	28	90	3	10
	Maize	30	30	100	-	-	-	-	28	93	2	7	30	100	-	-
	Wheat	32	32	100	-	-	-	-	30	94	2	6	30	94	2	6
Kailali	Rice	12	12	100	-	-	-	-	12	100	-	-	8	67	4	33
	Maize	21	21	100	-	-	-	-	17	81	4	19	15	71	6	29
	Wheat	8	8	100	-	-	-	-	6	75	2	25	6	75	2	25
Chitawan	Rice	29	28	97	-	-	1	3	28	97	1	3	17	59	12	41
	Maize	20	19	95	1	5	-	-	19	95	1	5	14	70	6	30
	Wheat	26	26	100	-	-	-	-	26	100	-	-	21	81	5	19
	Soyabean	26	26	100	-	-	-	-	26	100	-	-	15	58	11	42
Total	Rice	91	90	99	-	-	1	1	85	93	6	7	72	79	19	21
	Maize	91	90	99	1	1	-	-	84	92	7	8	78	86	13	14
	Wheat	183	183	100	-	-	-	-	162	89	21	11	109	60	74	40
	Soyabean	26	26	100	-	-	-	-	26	100	-	-	15	58	11	42
		391	389	99	-	-	-	-	357	91	34	9	274	70	117	30

ANNEX 3
Table XI
Page 226

MINIKIT EVALUATION PROJECT

Response of Farmers About the number of Visits Made to Minikit Plots by JT/JTAs, ADOs, and other Officials

(Sampled Hill Districts)

District	Crop	No. of farmers Interviewed	Number of visits made by																		
			JT/JTAs							ADOs							Other Officials				
			Yes					No Visit		Yes					No Visit		Yes		No Visit		
			1	2	3	4	More than 5	No.	%	1	2	3	4	More than 5	No.	%	No.	%	No.	%
Tanahu	Rice	25	5	3	4	-	3	10	40	2	5	-	1	-	17	68	-	-	25	100
	Maize	28	7	5	2	2	4	8	29	1	1	1	1	-	24	86	4	14	24	86
Ramechhap	Rice	22	1	1	2	-	-	18	82	1	-	-	-	-	21	95	1	5	21	95
	Maize	25	1	1	2	-	-	21	84	1	-	-	-	-	24	96	1	4	24	96
Ilam	Rice	11	2	7	-	1	-	1	9	-	-	-	-	-	11	100	-	-	11	100
	Maize	60	7	11	3	-	-	39	65	3	-	-	-	-	57	95	-	-	60	100
Doti	Rice	21	-	17	2	-	-	2	21	7	-	1	-	-	13	62	1	5	20	95
	Maize	21	-	11	2	1	-	7	33	2	-	-	1	-	18	86	1	5	20	96
	Wheat	8	-	7	1	-	-	-	-	1	1	-	2	-	4	50	1	12	7	88
Total	Rice	79	8	28	8	1	3	31	39	10	5	1	1	-	62	78	2	3	77	97
	Maize	134	15	28	9	3	4	75	53	7	1	1	2	-	123	92	6	4	128	96
	Wheat	8	-	7	1	-	-	-	-	1	1	-	2		4	50	1	12	7	88

Annex 2
Appendix 1
Table 33A

MINIKIT EVALUATION PROJECT

Response of Farmers About the number of visits made to Minikit Plots by JT/JTAs, ADOs, and other Officials

(Sampled Tarai Districts)

District	Crop	No. of farmers Interviewed	Number of visits made by JT/JTAs: Yes 1	2	3	4	More than 4 times	No Visit No.	%	ADOs: Yes 1	2	3	4	More than 4 times	No Visit No.	%	Other Officials: Yes No.	%	No Visit No.	%
Nawalparasi	Rice	19	10	2	1	-	-	6	32	5	2	-	-	-	12	63	1	-	18	95
	Maize	20	8	2	1	1	-	8	40	4	3	-	-	-	13	65	-	-	20	100
	Wheat	117	15	17	14	6	18	47	40	29	8	2	-	-	78	67	2	-	115	98
Sunsari	Rice	31	3	2	11	5	4	6	19	5	2	1	-	-	23	74	-	-	31	100
	Maize	30	4	3	7	6	2	8	27	5	2	1	-	-	22	73	-	-	30	100
	Wheat	32	7	5	8	4	3	5	16	5	2	1	-	-	24	75	-	-	32	100
Kailali	Rice	12	—	4	-	4	-	4	33	-	-	-	-	-	12	100	-	-	12	100
	Maize	21	6	5	-	-	-	10	48	2	-	-	-	-	19	90	-	-	21	100
	Wheat	8	-	5	-	-	-	3	38	-	-	-	-	-	8	100	-	-	8	100
Chitawan	Rice	29	8	8	8	-	-	5	17	5	-	-	-	-	24	83	6	-	23	79
	Maize	20	12	3	2	-	-	3	15	3	-	-	-	-	17	85	5	-	15	75
	Wheat	26	10	5	5	-	-	6	23	5	-	-	-	-	21	81	6	-	20	77
	Soyabean	26	10	5	5	-	-	6	23	4	-	-	-	-	22	85	5	-	21	81
Total	Rice	91	21	16	20	9	4	21	23	15	4	1			71	78	7		84	92
	Maize	91	30	13	10	7	2	29	32	14	5	1			71	78	5		86	95
	Wheat	183	32	32	27	10	21	61	33	39	10	3			131	72	8		175	96
	Soyabean	26	10	5	5	-	-	6	23	4	-	-			22	85	5		21	81

146

MINIKIT EVALUATION PROJECT

Farmers Response regarding Yield of Minikit Crop Varieties

(Sampled Hill Districts)

District	Crop	No. of farmers Interviewed	Yield Increased by Growing Minikit Crop Varieties: Yes No.	Yes %	No No.	No %	No Response No.	No Response %	Yield Increased by: 25% No.	25% %	50% No.	50% %	75% No.	75% %	100% No.	100% %	150% No.	150% %	200% No.	200% %
Tanahun	Rice	25	22	88	3	12	-	-	11	50	9	41	-	-	2	9	-	-	-	-
	Maize	28	28	100	-	-	-	-	3	11	12	43	-	-	13	46	-	-	-	-
Ramechhap	Rice	22	14	64	4	18	4	18	8	57	4	29	2	14	-	-	-	-	-	-
	Maize	25	18	72	4	16	3	12	14	78	4	22	-	-	-	-	-	-	-	-
Ilam	Rice	11	8	73	3	27	-	-	4	50	2	25	2	25	-	-	-	-	-	-
	Maize	60	60	100	-	-	-	-	2	3	6	10	15	25	37	62	-	-	-	-
Doti	Rice	21	20	95	1	5	-	-	-	-	3	15	-	-	16	80	-	-	1	5
	Maize	21	20	95	1	5	-	-	-	-	1	5	-	-	17	85	-	-	2	10
	Wheat	8	8	100	-	-	-	-	-	-	1	13	-	-	7	87	-	-	-	-
Total	Rice	79	64	81	11	14	4	5	25	39	18	28	2	3	18	28	-	-	1	2
	Maize	134	126	94	5	4	3	2	19	15	23	18	15	12	67	53	-	-	2	2
	Wheat	8	8	100	-	-	-	-	-	-	1	13	-	-	7	88	-	-	-	-
		221	198	90	16	7	7	3	44	22	42	21	7	4	92	46	-	-	3	2

Annex 2
Appendix 1
Table 24a

MINIKIT EVALUATION PROJECT

Farmers Response regarding Yield of Minikit Crop Varieties

(Sampled Terai Districts)

District	Crop	No. of farmers Interviewed	Yield Increase by Growing Minikit Crop Varieties: Yes No.	Yes %	No No.	No %	No Response No.	No Response %	Yield Increased by 25% No.	25% %	50% No.	50% %	75% No.	75% %	100% No.	100% %	150% No.	150% %	200% No.	200% %
Nawal-parasi	Rice	19	15	79	4	21	-	-	2	13	6	40	1	7	6	40	-	-	-	-
	Maize	20	19	95	1	5	-	-	4	21	10	53	1	5	4	21	-	-	-	-
	Wheat	117	64	55	53	45	-	-	13	20	34	53	8	13	9	14	-	-	-	-
Sunsari	Rice	31	31	100	-	-	-	-	4	13	15	48	1	3	11	36	-	-	-	-
	Maize	30	19	63	11	37	-	-	2	11	11	58	1	5	5	26	-	-	-	-
	Wheat	32	30	94	2	6	-	-	4	13	13	44	1	3	12	40	-	-	-	-
Kailali	Rice	12	12	100	-	-	-	-	6	50	6	50	-	-	-	-	-	-	-	-
	Maize	21	17	81	4	19	-	-	10	59	5	29	2	12	-	-	-	-	-	-
	Wheat	8	8	100	-	-	-	-	1	13	7	87	-	-	-	-	-	-	-	-
Chitawan	Rice	29	18	62	11	38	-	-	7	39	11	61	-	-	-	-	-	-	-	-
	Maize	20	15	75	5	25	-	-	9	60	6	40	-	-	-	-	-	-	-	-
	Wheat	26	17	65	9	35	-	-	-	-	7	41	10	59	-	-	-	-	-	-
	Soyabean	26	19	73	7	27	-	-	10	53	5	26	-	-	4	21	-	-	-	-
Total	Rice	91	76	84	15	16	-	-	19	25	38	50	2	3	17	22	-	-	-	-
	Maize	91	70	77	21	13	-	-	25	36	32	46	4	6	9	13	-	-	-	-
	Wheat	183	119	65	64	35	-	-	18	15	61	51	19	16	21	18	-	-	-	-
	Soyabean	26	19	73	7	27	-	-	10	53	5	26	-	-	4	21	-	-	-	-
		391	284	73	107	27	-	-	72	25	136	48	25	9	51	18	-	-	-	-

ANNEX 2
Appendix 1
Table 24b

MINIKIT EVALUATION PROJECT

Average Yield of Minikit RICE Varieties against Local

(Sampled District-wise)

Variety	Yield (kg/ha)							
	Chiayuan	Kaohsiung	Shanhai	Kaohsi	Ilan	Hualien	Taichung	Pati
Chaulina	4[illegible](15)	3605(12)	4411(3)	4209(5)			3443(12)	714(11)
Local	4707(15)	2322(5)	2389(3)	3147(3)			3416(12)	456(11)
Parwanipur-1	529(1)	4530(2)		3148(6)			2543(6)	
Local	3691(1)	1714(1)		2191(5)			4219(6)	
Janaki	4071(12)	3195(9)	3274(5)	3169(4)				1137(7)
Local	4337(12)	2412(6)	2463(5)	1988(3)				420(7)
CH 45	2443(1)	3327(3)			1634(8)	4133(11)	3296(7)	
Local	3491(1)	3334(2)			1322(8)	5217(11)	3411(7)	
Sabitri	4611(9)	4076(9)	3877(6)	2353(3)		5703(1)		472(1)
Local	4243(9)	2931(5)	2569(6)	769(2)		5703(1)		452(1)
Lunai	3628(10)	2912(5)	2442(4)	3373(4)		4752(3)	2495(2)	1770(3)
Local	4603(10)	3214(3)	2067(4)	1042(2)		5703(3)	5703(2)	595(3)
Hasali	4230(1)	4113(5)	3322(24)	3131(4)	1939(12)	6009(7)	5036(21)	
Local	2679(1)	1597(2)	2534(24)	2043(4)	1615(11)	5500(7)	3055(21)	
Durga	7493(1)	3132(10)	3323(5)					1167(1)
Local	5626(1)	3253(4)	2737(5)					733(1)
IR 8			4593(10)		2900(1)	5347(2)		
Local			2143(10)		2200(1)	5347(2)		
IR 20					2200(1)		4990(1)	
Local					1467(1)		3209(1)	
IR 24								312(1)
Local								519(1)
IR 22				2950(2)				
Local				1475(2)				
IR 6031				2212(1)			993(1)	
Local				1475(1)			2495(1)	
IR 2062							1426(1)	
Local							2351(1)	
Taichung							4634(2)	
Local							3209(2)	
Chainung						2139(3)		2139(1)
Local						3302(3)		713(1)

Bracketed figures indicate number of farmers.

Table 4

MINIKIT EVALUATION PROJECT

Average Yield of Minikit MAIZE Varieties against Local

(Sample District-wise)

Variety	Yield (kg/ha)							
	Chitawan	Nawalparasi	Sunsari	Kailali	Ilam	Ramechhap	Tanahun	Doti
Rampur Yellow	3042(9)	1264(5)	3013(15)	2360(13)	3023(8)	2473(12)	3580(23)	1632(17)
Local	1260(9)	554(2)	1131(7)	1753(8)	1575(8)	2194(12)	1933(23)	871(17)
Kakani Yellow	2250(3)	2953(1)	1927(2)	3677(2)	1919(30)	1936(8)	3876(10)	1194(2)
Local	1141(3)			2576(2)	963(24)	1808(8)	2212(10)	677(2)
Rampur composite	2307(6)				2856(4)		3928(3)	
Local	1512(5)				1498(4)		2377(3)	
Sarlahi Seto	1915(8)	2203(13)	2822(7)	2950(1)	2679(7)	2308(9)	3323(12)	1686(16)
Local	1087(6)	2329(7)	1109(5)		1507(7)	1950(9)	1905(12)	894(16)
Hetauda compos ite		1573(2)	1765(2)	2948(6)	1948(21)	620(1)	3804(17)	
Local			442(1)	1498(3)	1036(21)	1116(1)	2152(17)	
Khumal Yellow					2621(5)			
Local					1409(5)			
Kakani composite					2933(1)			
Local					1467(1)			

Bracketed figures indicate number of farmers.

ANNEX 2
Appendix 1
Table 25b

MINIKIT EVALUATION PROJECT

Average Yields of Minikits WHEAT Varieties and SOYABEAN against Local

(Sampled District-wise)

Varieties	Yields (kg/ha)				
	Chitawan	Nawalparasi	Sunsari	Kailali	Doti
Wheat					
Hupateka	2439(12)				
Local	1941(11)				
NL 30	1657(11)	1780(32)	2429(2)	4404(1)	1332(2)
Local	2214(9)	1756(7)	885(1)		549(2)
Lerma	1722(2)				
Local	1401(2)				
RR 21	961(3)	1431(10)	2447(18)	2564(5)	620(8)
Local	2227(3)	942(5)	1180(12)	1786(8)	420(8)
UP 262	2003(1)	1852(3)	2161(13)		
Local	1868(1)		1336(10)		
HD 1982			2417(5)		
Local			1226(3)		
CP 1102		1799(24)			
Local		1703(3)			
[illegible] 88		1390(50)			
Local		1408(16)			
Soyabean					
Hardee	985(21)				
Local	416(7)				

Bracketed figures indicate number of farmers.

MINIKIT EVALUATION PROJECT

Farmers' Interest to receive and willingness to pay for minikits

(Sampled Hill Districts)

District	Crop	No. of farmers interviewed	Farmers interested in receiving minikits				Farmers willing to pay for minikits					
			Yes		No		Yes		No		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%
Tanahun	Rice	25	20	80	5	20	8	40	10	50	2	10
	Maize	28	25	89	3	11	20	80	4	16	1	4
Ramechhap	Rice	22	22	100			22	100	-	-	-	-
	Maize	25	25	100			25	100	-	-	-	-
Ilam	Rice	11	11	100			3	27	8	73	-	-
	Maize	60	60	100			29	48	31	52	-	-
Doti	Rice	21	21	100			21	100	-	-	-	-
	Maize	21	21	100			21	100	-	-	-	-
	Wheat	8	8	100			8	100	-	-	-	-
Total	Rice	79	74	94	5	6	54	73	18	24	2	3
	Maize	134	131	98	3	2	95	73	35	26	1	1
	Wheat	8	8	100			8	100	-	-	-	-

ANNEX 2
Appendix 1
Table 20a

MINIKIT EVALUATION PROJECT

Farmers' Interest to receive and willingness to pay for minikits

(Sampled Terai Districts)

District	Crop	No. of farmers interviewed	Farmers interested in receiving minikits				Farmers willing to pay for minikits					
			Yes		No		Yes		No		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%
Nawalparasi	Rice	19	19	100	-	-	19	100	-	-	-	-
	Maize	20	20	100	-	-	16	80	4	20	-	-
	Wheat	117	117	100	-	-	110	94	7	6	-	-
Sunsari	Rice	31	31	100	-	-	31	100	-	-	-	-
	Maize	30	30	100	-	-	30	100	-	-	-	-
	Wheat	32	32	100	-	-	32	100	-	-	-	-
Kailali	Rice	12	11	92	1	8	10	91	1	9	-	-
	Maize	21	19	90	2	10	18	95	-	-	1	5
	Wheat	8	6	75	2	25	6	100	-	-	-	-
Chitawan	Rice	29	28	96	1	4	27	96	1	4	-	-
	Maize	20	19	95	1	5	18	95	1	5	-	-
	Wheat	26	26	100	-	-	26	100	-	-	-	-
	Soyabean	26	25	96	1	4	24	96	1	4	-	-
Total	Rice	91	89	98	2	2	87	98	2	2	-	-
	Maize	91	88	97	3	3	82	93	5	6	1	1
	Wheat	183	181	99	2	1	174	96	7	4	-	-
	Soyabean	26	25	96	1	4	24	96	1	4	-	-

ANNEX 2
Appendix 1
Table 26b

MINIKIT EVALUATION PROJECT

Number of Farmers who kept and gave seed to others and Number of Farmers who received and used the seed and the Quantity of seed kept and given

(Sampled Hill Districts)

District	Crop	No. of farmers interviewed	Number of farmers who kept seed and Quantity of seed kept			Number of farmers who gave seed to others and Quantity of seed given			Number of farmers who	
			Farmers		Quantity (kg)	Farmers		Quantity (kg)	Received seed	Used seed
			No.	%		No.	%			
Ramechhap	Rice	22	15	68	381	6	40	99	61	61
	Maize	25	16	64	355	7	44	99	29	29
Ilam	Rice	11	11	100	167	9	82	98	9	9
	Maize	60	38	63	1018	20	53	101	23	22
Tanahun	Rice	25	18	72	1859	12	67	1546	138	138
	Maize	28	25	89	1218	15	60	1218	338	338
Doti	Rice	21	14	67	66	6	43	30	13	13
	Maize	21	11	52	60	3	27	20	8	8
	Wheat	8	8	100	38	4	50	18	11	11
Total	Rice	79	58	73	2473	33	57	1773	221	221
	Maize	134	90	67	2651	45	50	1438	398	397
	Wheat	8	8	100	38	4	50	18	11	11

Table 27

MINIKIT EVALUATION PROJECT

Number of Farmers who kept and gave seed to others and Number of Farmers who received and used the seed and the Quantity of seed kept and given

(Sampled Terai Districts)

District	Crop	No. of farmers interviewed	No. of farmers who kept seed and Quantity of seed kept: Farmers No.	Farmers %	Quantity (kg)	Number of farmers who gave seed to others and Quantity of seed given: Farmers No.	Farmers %	Quantity (kg)	Number of farmers who Received seed	Used seed
Nawalparasi	Rice	19	11	58	590	3	27	78	10	10
	Maize	20	9	45	168	2	22	39	13	13
	Wheat	117	46	39	676	21	46	167	32	32
Sunsari	Rice	31	26	84	726	15	58	110	25	25
	Maize	30	16	53	211	14	88	335	67	67
	Wheat	32	20	63	375	12	60	242	39	39
Kailali	Rice	12	10	83	123	7	70	59	27	27
	Maize	21	12	57	205	7	58	45	17	17
	Wheat	8	4	50	60	2	50	35	17	15
Chitawan	Rice	29	19	66	119	15	79	185	57	50
	Maize	20	13	65	523	8	62	116	76	76
	Wheat	26	17	65	370	11	65	242	48	48
	Soyabean	26	11	42	70	6	55	16	25	25
Total	Rice	91	66	73	1558	40	61	432	119	112
	Maize	91	50	55	1107	31	62	535	173	171
	Wheat	183	87	48	1481	46	53	686	135	135
	Soyabean	26	17	65	70	6	35	16	25	25

Table 22b

155

MINIKIT EVALUATION PROJECT

Farmers' Response Regarding the Application of Recommended Technologies, Addition Needed in Minikit

And Suitability of Minikit Crop Varieties to Their Existing Cropping Patterns

(Sampled Hill Districts)

District	Crop	No. of farmers interviewed	Recommended Technologies Used: Needed Fertilizer		FYM		Insecticides		Addition needed in minikit						Suitability of minikit crop varieties to existing cropping pattern			
			No.	%	No.	%	No.	%	Seed	%	No.	%	NR	%	Yes	%	No.	%
Tandui	Rice	25	15	60	19	76	17	68	11	44	14	56	-	-	22	88	3	12
	Maize	28	24	86	26	93	20	71	25	89	3	11	-	-	25	89	3	11
Ranchuli	Rice	22	17	77	14	64	5	22	17	77	5	23	-	-	14	64	8	36
	Maize	25	16	64	19	76	4	16	9	36	16	64	-	-	22	88	3	12
Ilam	Rice	11	10	91	10	91	7	64	5	45	6	55	-	-	11	100	-	-
	Millet	60	29	48	32	53	27	45	2	3	58	97	-	-	60	100	-	-
Doti	Rice	21	21	100	21	100	-	-	10	48	11	52	-	-	21	100	-	---
	Maize	21	16	86	21	100	2	10	5	24	16	76	-	-	18	86	3	14
	Wheat	8	8	100	8	100	-	-	6	75	2	25	-	-	8	100	-	-
Total	Rice	79	63	78	64	81	29	37	43	54	36	46	-	-	68	86	11	14
	Maize	134	87	65	98	73	53	40	41	31	93	69	-	-	125	93	9	7
	Wheat	8	8	100	8	100	-	-	6	75	2	25	-	-	8	100	-	-

NR = No Response

MINIKIT EVALUATION PROJECT

Farmers' Response Regarding the Application of Recommended Technologies, Addition Needed in Minikit And Suitability of Minikit Crop Varieties to Their Existing Cropping Patterns

(Sampled Tarai Districts)

District	Crop	No. of farmers Interviewed	Recommended Technologies Used: Chemical Fertilizer		FYM		Insecticides		Addition needed in minikit						Suitability to existing cropping patterns			
			No	%	No	%	No	%	Yes	%	No	%	NR	%	Yes	%	No.	%
Nawalparasi	Rice	19	19	100	13	68	13	68	3	16	16	84	-	-	4	21	15	79
	Maize	20	20	100	12	60	13	65	2	10	16	80	2	10	9	45	11	55
	Wheat	117	101	86	94	80	30	26	28	24	89	76	-	-	32	27	85	73
Sunsari	Rice	31	20	65	25	81	26	84	18	58	-	-	13	42	31	100	-	-
	Maize	30	26	87	26	87	25	83	18	60	-	-	12	40	29	97	1	3
	Wheat	32	31	97	30	94	24	75	18	56	-	-	14	44	32	100	-	-
Kailali	Rice	12	9	75	4	33	2	17	6	50	4	33	2	17	10	83	2	17
	Maize	21	20	95	6	29	6	29	11	53	9	43	1	5	19	90	2	10
	Wheat	8	7	88	2	12	-	-	3	38	3	38	2	25	5	63	3	38
Chitawan	Rice	29	21	72	24	83	20	69	10	34	19	66	-	-	21	100	-	-
	Maize	20	20	100	19	95	10	50	6	30	14	70	-	-	20	100	-	-
	Wheat	26	26	100	26	100	17	65	6	23	20	77	-	-	25	96	1	4
	Soyabean	26	10	38	19	73	8	30	4	15	22	85	-	-	26	100	-	-
Total	Rice	91	69	76	66	73	61	67	37	41	39	43	15	16	66	73	17	19
	Maize	91	86	95	63	69	54	59	37	41	39	43	15	16	77	85	14	15
	Wheat	183	165	90	152	83	71	39	55	30	112	61	16	9	94	51	89	47
	Soyabean	26	10	38	19	73	8	30	4	15	22	85	-	-	26	100	-	-

ANNEX
Appendix
Table 28b

MINIKIT EVALUATION PROJECT

Farmers' Reactions on the Instruction Booklet and Number of Farmers who Received Training on Minikit
(Sampled Hill Districts)

District	Crop	No. of farmers interviewed	Instruction given in the booklet followed: Yes No.	Yes %	No: No.	No %	Found useful: Yes No.	Yes %	No: No.	No %	Training Received: Yes No.	Yes %	No: No.	No %
Tanahun	Rice	25	13	52	12	48	13	52	12	48	-	-	25	100
	Maize	28	20	71	8	29	20	71	8	29	-	-	28	100
Ramechhap	Rice	22	1	5	21	95	1	5	21	95	1	5	21	95
	Maize	25	1	4	24	96	1	4	24	96	2	8	23	92
Ilam	Rice	11	9	82	2	18	8	73	3	27	1	9	10	[illegible]
	Maize	60	56	93	4	7	49	82	11	18	3	5	57	[illegible]
Doti	Rice	21	16	76	5	24	16	76	5	24	3	14	18	86
	Maize	21	20	95	1	5	20	95	1	5	3	14	18	86
	Wheat	8	7	86	1	14	7	86	1	14	3	38	5	62
Total	Rice	79	39	49	40	51	38	48	41	51	5	6	74	94
	Maize	134	97	72	37	28	90	67	44	33	8	6	126	94
	Wheat	8	7	88	1	12	7	88	1	12	3	38	5	62

ANNEX 2
Appendix 1
Table 29a

158

MINIKIT EVALUATION PROJECT

Farmers' Reactions on the Instruction Booklet and Number of Farmers who Received Training on Minikit
(Sampled Terai Districts)

District	Crop	No. of Farmers interviewed	Instruction given in the booklet followed: Yes No.	Yes %	No: No.	No %	Found useful: Yes No.	Yes %	No: No.	No %	Training Received: Yes No.	Yes %	No: No.	No %
Nawalparasi	Rice	19	17	89	2	11	17	89	2	11	4	21	15	79
	Maize	20	16	80	4	20	16	80	4	20	3	15	17	85
	Wheat	117	97	83	20	17	97	83	20	17	19	16	98	84
Sunsari	Rice	31	29	94	2	6	28	90	3	10	5	16	26	84
	Maize	30	28	93	2	7	27	90	3	10	5	17	25	83
	Wheat	32	30	94	2	6	29	91	3	9	5	16	27	84
Kailali	Rice	12	4	33	8	67	4	33	8	67	4	33	8	67
	Maize	21	5	24	16	76	5	24	16	76	4	19	17	81
	Wheat	8	2	25	6	75	2	25	6	75	4	50	4	50
Chitawan	Rice	29	29	100	-	-	29	100	-	-	4	14	25	86
	Maize	20	20	100	-	-	20	100	-	-	2	10	18	90
	Wheat	26	26	100	-	-	26	100	-	-	3	12	23	88
	Soyabean	26	26	100	-	-	26	100	-	-	3	12	23	88
Total	Rice	91	79	87	12	13	78	86	13	14	17	19	74	81
	Maize	91	69	76	22	24	68	75	23	25	14	15	77	85
	Wheat	183	155	85	28	15	154	84	29	16	31	17	152	83
	Soyabean	26	26	100	-	-	26	100	-	-	3	12	23	88

ANNEX 2
Appendix 1
Table 29b

MINIKIT EVALUATION PROJECT

Farmers' Reactions on Quality of Seed Content of Minikit and Their Germination

(Sampled Hill Districts)

District	Crop	No. of Farmers Interviewed	Quality of Seed										Minikit Seed Gave Good Germination			
			Best		Good		Medium		Bad		Very Bad		Yes		No	
			No.:	%	No. :	%	No.:	%	No. :	%	No. :	%	No.:	%	No.:	%
Tanahun	Rice	25	5	20	20	80	-	-	-	-	-	-	25	100	-	-
	Maize	28	2	7	26	93	-	-	-	-	-	-	28	100	-	-
Ramechhap	Rice	22	3	14	10	45	5	23	3	14	1	5	20	91	2	9
	Maize	25	4	16	12	48	8	32	1	4	-	-	24	96	1	4
Ilam	Rice	11	-	-	2	18	9	82	-	-	-	-	7	64	4	36
	Maize	60	5	8	4	7	51	85	-	-	-	-	29	48	31	52
Doti	Rice	21	10	48	11	52	-	-	-	-	-	-	21	100	-	-
	Maize	21	5	24	16	76	-	-	-	-	-	-	21	100	-	-
	Wheat	8	2	25	6	75	-	-	-	-	-	-	8	100	-	-
Total	Rice	79	18	23	43	54	14	18	3	4	1	1	73	92	6	8
	Maize	134	16	12	58	43	59	44	1	1	1	1	102	76	32	24
	Wheat	8	2	25	6	75	-	-	-	0	-	0	8	100	-	0
TOTAL		221	36	16	107	48	73	33	4	2	1	1	183	83	38	17

Annex 2
Appendix 1
Table 30a

MINIKIT EVALUATION PROJECT

Farmers' Reactions on Quality of Seed Content of Minikit and Their Germination

(Sampled Terai Districts)

District	Crop	No. of Farmers Interviewed	Quality of Seed										Minikit Seed Gave Good Germination			
			Best		Good		Medium		Bad		Very Bad		Yes		No	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Nawalparasi	Rice	19	2	11	15	78	2	11	-	-	-	-	19	100	-	-
	Maize	20	15	75	4	20	1	5	-	-	-	-	20	100	-	-
	Wheat	117	3	3	114	97	-	-	-	-	-	-	117	100	-	-
Sunsari	Rice	31	8	26	18	58	2	6	3	10	-	-	27	87	4	13
	Maize	30	6	20	22	74	1	3	1	3	-	-	27	90	3	10
	Wheat	32	8	25	16	50	3	9	5	16	-	-	24	75	8	25
Kailali	Rice	12	4	33	5	42	3	25	-	-	-	-	8	66	4	34
	Maize	21	8	38	11	52	2	10	-	-	-	-	15	771	6	29
	Wheat	8	3	38	4	50	1	12	-	-	-	-	4	50	4	50
Chitawan	Rice	29	1	3	25	87	2	7	1	3	-	-	28	97	1	3
	Maize	20	2	10	18	90	-	-	-	-	-	-	19	95	1	5
	Wheat	26	-	-	25	96	1	4	-	-	-	-	25	96	1	4
	Soyabean	26	3	12	21	81	2	7	-	-	-	-	26	100	-	-
Total	Rice	91	15	16	63	69	9	10	4	4	-	-	82	90	9	10
	Maize	91	31	34	55	60	4	4	1	1	-	-	81	89	10	11
	Wheat	183	14	8	159	87	5	3	5	3	-	-	170	93	13	7
	Soyabean	26	3	12	21	81	2	8	-	-	-	-	26	100	-	-
TOTAL		391	63	16	298	76	20	5	10	3	-	-	359	92	32	8

ANNEX
Appendix 1
Table 30c

MINIKIT EVALUATION PROJECT

Factors Considered While Selecting Good Seed

(Sampled Hill Districts)

District	Crop	No. of Farmers Interviewed	Factors Considered While Selecting Good Seed							
			Uniformity in Grains		Free From Diseases		Well Nourished, Clean and Bright Grain		Well Dried	
			No.	%	No.	%	No.	%	No.	%
Tanahun	Rice	25	25	100	25	100	25	100	25	100
	Maize	28	28	100	28	100	28	100	28	100
Ramechhap	Rice	22	12	55	14	64	9	41	5	23
	Maize	25	12	48	15	60	9	36	5	20
Ilam	Rice	11	11	100	11	100	11	100	11	100
	Maize	60	60	100	60	100	60	100	60	100
Doti	Rice	21	20	95	21	100	18	86	21	100
	Maize	21	20	95	21	100	14	67	20	95
	Wheat	8	7	88	8	100	5	63	8	100
Total	Rice	79	68	86	71	90	63	80	62	78
	Maize	134	120	90	124	93	111	83	113	84
	Wheat	8	7	88	8	100	5	63	8	100
TOTAL		221	195	88	203	92	179	81	183	83

ANNEX
Appendix 1
Table 37

162

MINIKIT EVALUATION PROJECT

Factors Considered While Selecting Good Seed

(Sampled Tarai Districts)

District	Crop	No. of Farmers Interviewed	Factors Considered While Selecting Good Seed							
			Uniformity in Grains		Free From Diseases		Well Nourished, Clean and Bright Grain		Well Dried	
			No.	%	No.	%	No.	%	No.	%
Nawalparasi	Rice	19	10	53	5	26	10	53	5	26
	Maize	20	12	60	4	20	14	70	5	25
	Wheat	117	56	48	34	29	53	45	10	9
Sunsari	Rice	31	31	100	31	100	31	100	31	100
	Maize	30	30	100	30	100	30	100	30	100
	Wheat	32	32	100	32	100	32	100	32	100
Kailali	Rice	12	12	100	11	92	10	83	12	100
	Maize	21	21	100	18	86	17	81	20	95
	Wheat	8	8	100	7	88	8	100	8	100
Chitawan	Rice	29	29	100	29	100	29	100	29	100
	Maize	20	20	100	20	100	20	100	20	100
	Wheat	26	26	100	26	100	26	100	26	100
	Soyabean	26	26	100	26	100	26	100	26	100
Total	Rice	91	82	90	76	84	80	88	77	85
	Maize	91	83	91	72	79	81	89	75	82
	Wheat	183	122	67	99	54	119	65	75	42
	Soyabean	26	26	100	26	100	26	100	26	100
TOTAL		391	313	80	273	70	306	78	254	65

MINIKIT EVALUATION PROJECT

Farmers' Reaction on Minikit Programme as a Good Means to Increase Food Production and the spread of New Varieties in Their Panchayats

(Sampled Hill Districts)

District	Crop	No. of farmers interviewed	Minikit Programme: A good means to increase food production: Yes		No		No Response		Minikit Programme: Helped in the spread of new varieties of crops: Yes		No		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Tanahun	Rice	25	23	92	2	8	-	-	21	84	4	16	-	-
	Maize	28	28	100	-	-	-	-	28	100	-	-	-	-
Ramechhap	Rice	22	18	82	4	18	-	-	12	55	10	45	-	-
	Maize	25	20	80	5	20	-	-	19	76	6	24	-	-
Ilam	Rice	11	11	100	-	-	-	-	11	100	-	-	-	-
	Maize	60	60	100	-	-	-	-	60	100	-	-	-	-
Doti	Rice	21	20	95	1	5	-	-	20	95	1	5	-	-
	Maize	21	21	100	-	-	-	-	21	100	-	-	-	-
	Wheat	8	8	100	-	-	-	-	8	100	-	-	-	-
Total	Rice	79	72	91	7	9	-	-	64	81	15	19	-	-
	Maize	134	129	96	5	4	-	-	128	96	6	4	-	-
	Wheat	8	8	100	-	-	-	-	8	100	-	-	-	-

ANNEX A
Appendix 1
Table 32a

MINIKIT EVALUATION PROJECT

Farmers' Reaction of Minikit Programme as a Good Means to Increase Food Production and the spread of New Varieties in Their Panchayats

(Sampled Terai Districts)

District	Crop	No. of farmers interviewed	Minikit Programme: A good means to increase food production: Yes		No		No Response		Helped in the spread of new varieties of crop: Yes		No		No Response	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Nawalparasi	Rice	19	16	84	1	5	2	11	17	89	-	-	2	11
	Maize	20	19	95	1	5	-	-	19	95	1	5	-	-
	Wheat	117	95	81	6	5	16	14	98	83	3	3	16	14
Sunsari	Rice	31	31	100	-	-	-	-	31	100	-	-	-	-
	Maize	30	30	100	-	-	-	-	30	100	-	-	-	-
	Wheat	32	32	100	-	-	-	-	32	100	-	-	-	-
Kailali	Rice	12	8	66	2	17	2	17	7	58	4	33	1	8
	Maize	21	16	76	4	19	1	5	17	81	3	14	1	5
	Wheat	8	5	63	2	25	1	12	5	63	2	25	1	12
Chitawan	Rice	29	29	100	-	-	-	-	28	97	1	3	-	-
	Maize	20	20	100	-	-	-	-	20	100	-	-	-	-
	Wheat	26	26	100	-	-	-	-	26	100	-	-	-	-
	Soyabean	26	26	100	-	-	-	-	23	88	3	12	-	-
Total	Rice	91	84	92	3	3	4	4	83	91	5	5	3	3
	Maize	91	85	93	5	5	1	2	86	95	4	4	1	2
	Wheat	183	158	86	8	4	17	9	161	88	5	3	17	9
	Soyabean	26	26	100	-	-	-	-	23	88	3	12	-	-

ANNEX 2
Appendix 1
Table 32b

165

Seed Minikit Programme

Definition : Minikit is a seed material for rapid dissemination among farmers. This may be recommended or other varieties that could be recommended within a year, accompanied by component technological practices.

Objectives :
1) To help increase production by quick dissemination of improved varieties.
2) To popularise the varieties and component technologies.
3) To give a choice of the varieties among farmers.
4) Evaluation of the selected varieties and technologies and to maintain a feedback system for researchers and extension.

Need : Minikit is an inexpensive and efficient way to reach maximum number of small farmers in short time. Minikit gives researchers the comparison of the performance of varieties under different agroclimatic conditions. There is a need of minikits at cropping system research sites.

Policy :
1) The total number of minikits should be fixed in the regional director's work plan meeting in consultation with crop coordinators.
2) The minikits should be distributed to large and small holding farmers in irrigated and rainfed areas suiting to agroclimatic conditions.
3) Maximum number of packets should be three to each PLA in the areas where PLA are employed and three per JT/JTA in non PLA area. This number should be per crop per season. However this number could change according to need and manpower available. In no case, minikits should be continued for more than three crop seasons to particular farmer unless the varieties are changed.
4) The seed source should be national headquarters and agricultural farms as recommended by crop programme. In selecting varieties for different regions specific varieties will also have to be considered.
5) All minikits should have leaflet containing all available technological information pertinent to areas and varieties.
6) Result and method demonstration should be done on these minikits from RD offices as far as possible. In the areas where minikits are not available, RD offices can buy seed for demonstration.
7) In simple minikits, only seeds shall be supplied.

8) The time of distribution and size of minikits should be as follows:

a. Rice - Early season crop	- Jan 15 - Feb 1st wk		Seed for one Katha
Normal ,, ,,	- by end of April		
b. Wheat, Barley etc. - Hills	- by 15 Sept.		½ Ropani
Terai	- by 15 Oct.		1 Katha
c. Maize - At least one month before planting in each season		Hill ;	1 Ropani
		Terai :	2 Ropani
d. Oil seeds and Pulses - At least one month before planting		Hill :	½ Ropani
		Terai :	½-1 Katha

Types of Minikits : 1) Simple minikits (only seeds)
2) Management minikits
3) Elite material minikits (would be entries to be released within one season)
4) Problem area minikits (certain areas specially attacked by disease, pests and deficiencies should be tested separately)

Responsibility : a. Research : The resposibility of research would be seed supply, technical information, delivery of minikits to ADO and RDO and supervision and evaluation of programmes and cards.

b. Extension: 1) Selection of sites and farmers
2) Reply cards sent to coordinator within a month of crop harvest; supervision of minikits; ADO office should also maintain the record of the cards and farmers so that continuous flow of repeated minikits to particular farmers could be checked.
3) Any problems arising during growing season should be immediately reported to crop programmes and RD office by ADO.

Follow up and Utilization of Minikits :

1. In areas where successful demonstrations are made, the farmers of the locality should be taken for field visit and the seeds of particular varieties should be stored for next years dissemination from farmer to farmer.
2. Follow up should also be done jointly by RD, crop coordinator, supporting service agencies and division from Khumaltar.
3. The emphasis of minikit distribution should be given to irrigated areas, rainfed areas and potential hill pockets.

Evaluation: 1. Each minikit or set should be accompanied with instruction and a reaction card which should contain time of planting, harvesting and any problems encountered during growing season and his likeliness or dislikeliness in simple farmers' language.

2. Training location on the basis of report card. Evaluation committee of minikits should consist of crop specialist, production agronomist, ADOs of RC offices. This should be supervised one time by crop specialist and two times at least by ADO office.

3. Minikits could independently be evaluated by Agriculture Ministry and the Agriculture Department at any feasible time.

Annex 2
Appendix 3

In addition to the name and the address of the farmer growing minikit rice variety(ies) the feedback cards (postcards) furnish us with the following information:

First card

1. Date of seed receipt
2. Date of seedbed preparation
3. Date of transplanting
4. Area Transplanted
5. Provision of irrigation facilities: Yes No
6. Doses of fertilisers applied in the area transplanted:
   a) Complexal kg b)Urea kg
   c) Potash kg d)Superphosphate kg e) FYM kg f)Compost kg
7. Variety(ies) Transplanted
   a) b)
   c) d)
   e)

Second card

1. Name of the variety(ies)
2. Date of earhead initiation
3. Date of harvesting
4. Area Transplanted
5. Weight of the produce(kg)
6. How did the farmer find the variety?
   Good Bad
7. If good, Why ?
   a) Production b) Hay c)Early Maturit
   d) Quality of rice e)Others
8. Will the farmer grow the variety next year ?

Annex 2
Appendix 4

In addition to the name and address of the farmer growing minikit maize variety(ies) the feedback cards gives us following information:

Minikit Maize Varieties

Variety 1	Variety 2
Planting Date	Harvesting Date
Yield of Variety 1	kg
Variety 2	kg

In the minikit maize varieties mark ✓ if the following are correct and mark x if they are wrong

	Variety 1	Variety 2
Yielding more than local		
Maturing earlier than local		
Less lodging than local		
Less susceptible to diseases than local		
No cob rotting		
Less susceptible to insects than local		
Dwarfer than local		
Appealing grain colour		
Tastier than local		
Other reasons		
Preferred variety between the two		

Note: Do not forget to mention the name of the maize variety(ies).

Annex 2
Appendix 5

In addition to the name and the address of the farmer growing minikit wheat variety(ies), the aerogramme provides us with the following information:

1. Yield .....
2. Type of the land brought under the variety(ies)
   (a) Tar... (b) Dol ... (c) Other ...
3. Date of Sowing .....
4. Method of Sowing: (a) Line ... (b) Kera ... (c) Broadcasting ...
5. Germination : (a) Thin ... (b) Dense ... (c) Medium ...
6. Type of soil of the land brought under the variety(ies):
   (a) Sandy .... (b) Clay .... (c) Loamy .... (d) Alluvial ....
7. Doses of fertilisers applied: (a) Complex ..... (b) Urea .....
   (c) Potash .....(d) Amonium Sulphate .....(e) FYM .....
8. During the period between sowing and harvesting:
   (a) Number of Irrigation Facilities provided
   (b) Number of Rainfalls
9. Date of Harvesting .....
10. Grains of the produce: (a)Bold....(b)Shrunk.....(c)Small but bold ....
11. Cultivation in the next year: Yes .... No....
    If Yes, (a) Area to be cultivated
            (b) The quantity of seed preserved
    If No, why ? (a) Bad grains... (b)Late maturity...(c)Low production.....
                 (d) More susceptible to diseases ....(e) More susceptible to insects.....(f) Low grain-bearing.....
12. Comments on the Programme;